



Office of Fissile Materials Disposition

United States Department of Energy

Surplus Plutonium Disposition Final Environmental Impact Statement

Comment Response Document

Volume III - Part A

November 1999

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Cover Sheet

Responsible Agency: United States Department of Energy (DOE)

Title: *Surplus Plutonium Disposition Final Environmental Impact Statement (SPD EIS)* (DOE/EIS-0283)

Locations of Candidate Sites: California, Idaho, New Mexico, North Carolina, South Carolina, Tennessee, Texas, Virginia, and Washington

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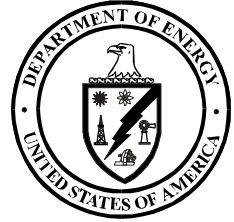
Abstract: On May 22, 1997, DOE published a Notice of Intent in the Federal Register (62 Federal Register 28009) announcing its decision to prepare an environmental impact statement (EIS) that would tier from the analysis and decisions reached in connection with the *Storage and Disposition of Weapons-Usable Fissile Materials Final Programmatic EIS*. At that time, the U.S. Environmental Protection Agency decided to be a cooperating agency. The *Surplus Plutonium Disposition Draft Environmental Impact Statement (SPD Draft EIS)* (DOE/EIS-0283-D) was prepared in accordance with NEPA and issued in July 1998. It identified the potential environmental impacts of reasonable alternatives for the proposed siting, construction, and operation of three facilities for the disposition of up to 50 metric tons (55 tons) of surplus plutonium, as well as a No Action Alternative. These three facilities would accomplish pit disassembly and conversion, plutonium conversion and immobilization, and mixed oxide (MOX) fuel fabrication.

For the alternatives that included MOX fuel fabrication, the SPD Draft EIS described the potential environmental impacts of using from three to eight commercial nuclear reactors to irradiate MOX fuel. The potential impacts were based on a generic reactor analysis that used actual reactor data and a range of potential site conditions. In May 1998, DOE initiated a procurement process to obtain MOX fuel fabrication and reactor irradiation services. In March 1999, DOE awarded a contract to Duke Engineering & Services, COGEMA Inc., and Stone & Webster (known as DCS) to provide the requested services. A *Supplement to the SPD Draft EIS* was issued in April 1999, which analyzed the potential environmental impacts of using MOX fuel in six specific reactors named in the DCS proposal. Those reactors are Catawba Nuclear Station Units 1 and 2 in South Carolina, McGuire Nuclear Station Units 1 and 2 in North Carolina, and North Anna Power Station Units 1 and 2 in Virginia.

DOE has identified the hybrid approach as its Preferred Alternative for the disposition of surplus plutonium. This approach allows for the immobilization of 17 metric tons (19 tons) of surplus plutonium and the use of 33 metric tons (36 tons) as MOX fuel. DOE has identified the Savannah River Site near Aiken, South Carolina, as the preferred site for all three disposition facilities (Alternative 3). DOE has also identified Los Alamos National

| Laboratory in New Mexico as the preferred site for lead assembly fabrication, and Oak Ridge National
| Laboratory in Tennessee as the preferred site for postirradiation examination of lead assemblies.

| **Public Involvement:** In preparing the SPD Final EIS, DOE considered comments on the SPD Draft EIS and the
| *Supplement to the SPD Draft EIS* received via mail, fax, and email, and comments recorded by phone and
| transcribed from videotapes. In addition, comments were captured by notetakers during interactive public
| meetings held on the SPD Draft EIS in August 1998 in Amarillo, Texas; Idaho Falls, Idaho; North Augusta,
| South Carolina; Portland, Oregon; and Richland, Washington, as well as during a public meeting on the
| *Supplement to the SPD Draft EIS* held in June 1999 in Washington, D.C. Comments received and DOE's
| responses to these comments are found in Volume III, the Comment Response Document, of the SPD Final EIS.
| Information on the surplus plutonium disposition program can be obtained by visiting the Office of Fissile
| Materials Disposition Web site at <http://www.doe-md.com>.



DOE/EIS-0283

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**United States Department of Energy
Office of Fissile Materials Disposition**

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List of Acronyms

AEA	Atomic Energy Act of 1954	CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
AECL	Atomic Energy of Canada Limited		
AED	aerodynamic equivalent diameter	CFA	Central Facilities Area
AIRFA	American Indian Religious Freedom Act	CFR	Code of Federal Regulations
ALARA	as low as is reasonably achievable	CPP	Chemical Processing Plant
		CWA	Clean Water Act of 1972, 1987
AMWTP	Advanced Mixed Waste Treatment Project	D&D	decontamination and decommissioning
ANL–W	Argonne National Laboratory–West	DBA	design basis accident
APSF	Actinide Packaging and Storage Facility	DCS	Duke Engineering & Services, COGEMA Inc., and Stone & Webster
AQCR	Air Quality Control Region	DNFSB	Defense Nuclear Facilities Safety Board
ARF	airborne release fraction		
ARIES	Advanced Recovery Integrated Extraction System	DOC	U.S. Department of Commerce
		DoD	U.S. Department of Defense
AVLIS	Atomic Vapor Laser Isotope Separation	DOE	U.S. Department of Energy
		DOL	U.S. Department of Labor
		DOT	U.S. Department of Transportation
BEA	Bureau of Economic Analysis		
BEIR V	Report V of the Committee on the Biological Effects of Ionizing Radiations	DR	damage ratio
		DU PEIS	<i>Final Programmatic Environmental Impact Statement for Alternative Strategies for Long-Term Management and Use of Depleted Uranium Hexafluoride</i>
BIO	Basis for Interim Operation		
BLM	Bureau of Land Management		
BNFL	British Nuclear Fuels		
BWR	boiling water reactor	DWPF	Defense Waste Processing Facility
CAA	Clean Air Act		
CAB	Citizens Advisory Board		
CANDU	Canadian Deuterium Uranium (reactors)	EA	environmental assessment
		EBR	Experimental Breeder Reactor (I or II)
CEQ	Council on Environmental Quality	EIS	environmental impact statement
		EPA	Environmental Protection

	Agency	HFEF	Hot Fuel Examination Facility
ES&H	environment, safety, and health	HHS	Department of Health and Human Services
ESTEEM	Education in Science, Technology, Energy, Engineering, and Math	HIGHWAY	(computer code for distances and populations along U.S. highways)
ETB	Engineering Test Bay	HLW	high-level waste
ETTP	East Tennessee Technology Park	HLWVF	high-level-waste vitrification facility
FAA	Federal Aviation Administration	HMIS	Hazardous Materials Information System
FDP	fluorinel dissolution process	HWTPF	Hazardous Waste Treatment and Processing Facility
FEMA	Federal Emergency Management Agency	HYDOX	hydride oxidation
FFCA	Federal Facility Compliance Agreement	IAEA	International Atomic Energy Agency
FFF	Uranium Fuel Fabrication Facility	ICPP	Idaho Chemical Processing Plant
FFTF	Fast Flux Test Facility	ICRP	International Commission on Radiological Protection
FI	field investigation	ID DHW	Idaho Department of Health and Welfare
FM	Farm-to-Market (road)	INEEL	Idaho National Engineering and Environmental Laboratory
FMF	Fuel Manufacturing Facility	INRAD	Intrinsic Radiation
FMEA	failure modes and effects analysis	INTEC	Idaho Nuclear Technology and Engineering Center
FMEF	Fuels and Materials Examination Facility	IPE	Individual Plant Examination
FONSI	finding of no significant impact	ISC	Industrial Source Complex Model
FPF	Fuel Processing Facility	ISC3	Industrial Source Complex Model, Version 3
FPPA	Farmland Protection Policy Act	ISCST3	Industrial Source Complex Model, Short-Term, Version 3
FR	Federal Register	ISLOCA	interfacing systems
GAO	General Accounting Office		loss-of-coolant accident
GDP	gaseous diffusion plant	ITP	In-Tank Precipitation Process
GE	General Electric Company		
GENII	Generation II, Hanford environmental radiation dosimetry software system		
GPS	global positioning satellite		
HE	high explosive		
HEPA	high-efficiency particulate air (filter)		
HEU	highly enriched uranium	LANL	Los Alamos National Laboratory

LCF	latent cancer fatality	NOI	Notice of Intent
LDR	Land Disposal Restrictions	NPDES	National Pollutant Discharge Elimination System
LEU	low-enriched uranium		
LLNL	Lawrence Livermore National Laboratory	NPH	natural phenomena hazard
		NPS	National Park Service
LLW	low-level waste	NRC	U.S. Nuclear Regulatory Commission
LOCA	loss-of-coolant accident		
LPF	leak path factor	NRU	National Research Universal
LWR	light water reactor	NTS	Nevada Test Site
		NWCF	New Waste Calcining Facility
M&H	Mason & Hanger Corporation	NWPA	Nuclear Waste Policy Act
MACCS2	Melcor Accident Consequence Code System (computer code)	NWS	National Weather Service
MAR	material at risk	ORIGEN	ORNL Isotope Generation and Depletion Code
MD	Office of Fissile Materials Disposition		
		ORNL	Oak Ridge National Laboratory
MEI	maximally exposed individual	ORR	Oak Ridge Reservation
MIMAS	Micronized Master	OSHA	Occupational Safety and Health Administration
MMI	Modified Mercalli Intensity		
MOX	mixed oxide		
		PBF	Power Burst Facility
		PEIS	programmatic environmental impact statement
NAAQS	National Ambient Air Quality Standards		
		PFP	Plutonium Finishing Plant
NAGPRA	Native American Graves Protection and Repatriation Act	PIE	postirradiation examination
		PM _{2.5}	particulate matter with an aerodynamic diameter less than or equal to 2.5 microns
NAS	National Academy of Science		
NCRP	National Council on Radiation Protection and Measurements	PM ₁₀	particulate matter with an aerodynamic diameter less than or equal to 10 microns
NDA	nondestructive analysis		
NEPA	National Environmental Policy Act of 1969	PNNL	Pacific Northwest National Laboratory
NESHAPs	National Emissions Standards for Hazardous Air Pollutants		
		PRA	probabilistic risk assessment
NIOSH	National Institute of Occupational Safety and Health	PSD	prevention of significant deterioration
NOA	Notice of Availability		
		PUREX	Plutonium-Uranium Extraction (Facility)
NOAA	National Oceanic and Atmospheric Administration	PWR	pressurized water reactor

R&D	research and development		Control
RADTRAN 4	(computer code: risks and consequences of radiological materials transport)	SCE&G	South Carolina Electric & Gas Company
RANT	Radioactive Assay and Nondestructive Test	SCSHPO	South Carolina State Historic Preservation Officer
RAMROD	Radioactive Materials Research, Operations and Demonstration	SDWA	Safe Drinking Water Act, as amended
RCRA	Resource Conservation and Recovery Act, as amended	SEIS	supplemental environmental impact statement
REA	regional economic area	SHPO	State Historic Preservation Officer
RF	respirable fraction	SI	sealed insert
RfC	reference concentration	SMC	Specific Manufacturing Complex
RfD	reference dose	SNF	spent nuclear fuel
RFETS	Rocky Flats Environmental Technology Site	SNM	special nuclear material
RFP	Request for Proposal	SPD	surplus plutonium disposition
RIA	Reactivity Insertion Accidents	SPD EIS	<i>Surplus Plutonium Disposition Environmental Impact Statement</i>
RIMS II	Regional Input-Output Modeling System II (computer code)	SPERT	Special Power Excursion Reactor Test
RISKIND	(computer code: risks and consequences of radiological materials transport)	SRS	Savannah River Site
ROD	Record of Decision	SSM PEIS	<i>Final Programmatic Environmental Impact Statement for Stockpile Stewardship and Management</i>
ROI	region of influence		
RMF	Radiation Measurements Facility	SST/SGT	safe, secure trailer/SafeGuards
RWMC	Radioactive Waste Management Complex	SWMU	Transport solid waste management unit
		SWP 1	Service Waste Percolation Pond 1
S/A	Similarity of Appearance (provision of Endangered Species Act)	TA	Technical Area
		TCE	trichloroethylene
SAR	safety analysis report	TNRCC	Texas Natural Resource Conservation Commission
SARA	Superfund Amendments and Reauthorization Act of 1986		
		TPBAR-LTA	tritium-producing burnable absorber rod lead test assembly
SCDHEC	South Carolina Department of Health and Environmental	TRA	technical risk assessment

TRANSCOM	transportation tracking and communications system	WNP-2	Washington Nuclear Plant-2
		WPPSS	Washington Public Power Supply System
TRU	transuranic		
TRUPACT	TRU waste package transporter	WROC	Waste Reduction Operations Complex
TSCA	Toxic Substances Control Act		
TSP	total suspended particulates	WSRC	Westinghouse Savannah River Company
TVA	Tennessee Valley Authority		
TWRS	tank waste remediation system		
TWRS EIS	<i>Tank Waste Remediation System Final Environmental Impact Statement</i>	ZPPR	Zero Power Physics Reactor
UC	Regents of the University of California		
UFSAR	updated final safety analysis report		
USACE	U.S. Army Corps of Engineers		
USC	United States Code		
USEC	United States Enrichment Corporation		
USFWS	U.S. Fish and Wildlife Service		
UV	ultraviolet		
VOC	volatile organic compounds		
VORTAC	very high frequency omnidirectional range/tactical air navigation (facility)		
VRM	Visual Resource Management		
WAG 3	Waste Area Grouping 3		
WERF	Waste Experimental Reduction Facility		
WIPP	Waste Isolation Pilot Plant		
WM PEIS	<i>Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste</i>		
WNP-1	Washington Nuclear Plant-1		

Chemicals and Units of Measure

°C	degrees Celsius (Centigrade)	min	minute
°F	degrees Fahrenheit	mph	miles per hour
μCi	microcurie	mrem	millirem
μg	microgram	MTHM	metric tons of heavy metal
μm	micrometer (micron)	MVA	megavolt-ampere
46°26'07"	46 degrees, 26 minutes, 7 seconds	MW	megawatt
Ci	curie	MWe	megawatt electric
cm	centimeter	MWh	megawatt-hour
CO	carbon monoxide	N ₂	nitrogen
CO ₂	carbon dioxide	nCi	nanocurie
dB	decibel	NO ₂	nitrogen dioxide
dba	decibel, A-weighted	pCi	picocurie
DUF ₆	depleted uranium hexafluoride	pcm/F	percent mille/per degree Fahrenheit
eH	oxidation reduction potential	pH	hydrogen ion concentration
ft	foot	PM _{2.5}	particulate matter less than or equal to 2.5 μm in diameter
ft ²	square foot	PM ₁₀	particulate matter less than or equal to 10 μm in diameter
ft ³	cubic foot	ppm	parts per million
g	gram	PuO ₂	plutonium dioxide
g	gravitational acceleration	rad	radiation absorbed dose
gal	gallon	rem	roentgen equivalent man
GWD/t	gigawatt days (per ton)	s	second
ha	hectare	SO ₂	sulfur dioxide
hr	hour (in compound units)	t	metric ton
in	inch	ton	short ton
kg	kilogram	UF ₆	uranium hexafluoride
km	kilometer	UO ₂	uranium dioxide
km ²	square kilometers	yd	yard
kV	kilovolt	yd ³	cubic yard
l	liter	yr	year (in compound units)
lb	pound	wt %	weight percent
m	meter		
m ²	square meter		
m ³	cubic meter		
mg	milligram		
mi	mile		

Metric Conversion Chart

To Convert Into Metric			To Convert Out of Metric		
If You Know	Multiply By	To Get	If You Know	Multiply By	To Get
Length					
inches	2.54	centimeters	centimeters	0.3937	inches
feet	30.48	centimeters	centimeters	0.0328	feet
feet	0.3048	meters	meters	3.281	feet
yards	0.9144	meters	meters	1.0936	yards
miles	1.60934	kilometers	kilometers	0.6214	miles
Area					
sq. inches	6.4516	sq. centimeters	sq. centimeters	0.155	sq. inches
sq. feet	0.092903	sq. meters	sq. meters	10.7639	sq. feet
sq. yards	0.8361	sq. meters	sq. meters	1.196	sq. yards
acres	0.40469	hectares	hectares	2.471	acres
sq. miles	2.58999	sq. kilometers	sq. kilometers	0.3861	sq. miles
Volume					
fluid ounces	29.574	milliliters	milliliters	0.0338	fluid ounces
gallons	3.7854	liters	liters	0.26417	gallons
cubic feet	0.028317	cubic meters	cubic meters	35.315	cubic feet
cubic yards	0.76455	cubic meters	cubic meters	1.308	cubic yards
Weight					
ounces	28.3495	grams	grams	0.03527	ounces
pounds	0.45360	kilograms	kilograms	2.2046	pounds
short tons	0.90718	metric tons	metric tons	1.1023	short tons
Temperature					
Fahrenheit	Subtract 32 then multiply by 5/9ths	Celsius	Celsius	Multiply by 9/5ths, then add 32	Fahrenheit

Metric Prefixes

Prefix	Symbol	Multiplication Factor
exa-	E	1 000 000 000 000 000 000 = 10 ¹⁸
peta-	P	1 000 000 000 000 000 = 10 ¹⁵
tera-	T	1 000 000 000 000 = 10 ¹²
giga-	G	1 000 000 000 = 10 ⁹
mega-	M	1 000 000 = 10 ⁶
kilo-	k	1 000 = 10 ³
hecto-	h	100 = 10 ²
deka-	da	10 = 10 ¹
deci-	d	0.1 = 10 ⁻¹
centi-	c	0.01 = 10 ⁻²
milli-	m	0.001 = 10 ⁻³
micro-	μ	0.000 001 = 10 ⁻⁶
nano-	n	0.000 000 001 = 10 ⁻⁹
pico-	p	0.000 000 000 001 = 10 ⁻¹²
femto-	f	0.000 000 000 000 001 = 10 ⁻¹⁵
atto-	a	0.000 000 000 000 000 001 = 10 ⁻¹⁸

Chapter 1

Introduction

1.1 BACKGROUND

In July 1998, the U.S. Department of Energy (DOE) published the *Surplus Plutonium Disposition Draft Environmental Impact Statement* (SPD Draft EIS) (DOE/EIS-0283-D), which analyzed the direct, indirect, and cumulative environmental effects of reasonable alternatives for siting, constructing, and operating three facilities proposed for surplus plutonium disposition at four candidate DOE sites. In April 1999, DOE also published the *Supplement to the SPD Draft EIS (Supplement)* (DOE/EIS-0283-DS), which describes the potential environmental impacts of using mixed oxide (MOX) fuel in six specific reactors named in the proposal from Duke Engineering & Services, COGEMA Inc., and Stone & Webster (DCS), as well as program changes made since the SPD Draft EIS was published.

In accordance with Under the guidelines set forth in the National Environmental Policy Act (NEPA), DOE established a 60-day period for public review and comment on the SPD Draft EIS. The public comment period began on July 17, 1998, and closed on September 16, 1998. For the *Supplement*, DOE established a 45-day period for public review and comment beginning on May 14, 1999, and closing on June 28, 1999. DOE also considered all comments received after these closing dates.

In August 1998, DOE convened five public hearings, one near each of the candidate sites (Richland, Washington; Amarillo, Texas; North Augusta, South Carolina; and Idaho Falls, Idaho) and one at a regional location (Portland, Oregon) to obtain oral and written comments on the SPD Draft EIS. On June 15, 1999, a public hearing was convened by DOE in Washington, D.C., to obtain written and oral comments on the *Supplement*.

Figure 1–1 reflects the dates and locations of these public hearings. All hearings were moderated by a facilitator, and comments and concerns were recorded by trained notetakers. The public was also encouraged to provide comments on both the SPD Draft EIS and the *Supplement* by mail, on a toll-free telephone and fax line, or by email through the Web site of DOE's Office of Fissile Materials Disposition (MD).

Attendance at the public hearings and the number of unique oral comments recorded at each are presented in Table 1–1. Attendance statistics for the public hearings were based on the number of participants who completed registration forms. A number of the written comments submitted during the public hearings were also presented orally. As these were considered written comments, they were not recorded as part of the hearing minutes. The number of comments collected by the various methods of submission are shown in Table 1–2.

Each comment document received by email, fax, mail, or telephone and each written comment submitted at the public hearings was marked with the date it was processed and assigned a unique identification code consisting of a prefix designating the method of transmission and a sequential number. Oral comments collected at the public hearings were similarly identified: each comment was assigned a unique code comprising a prefix designating the hearing location and a sequential number. Postcards received as part of a campaign were the only exception to this procedure; regardless of how the postcard was submitted, it was automatically given a distinctive postcard designation.

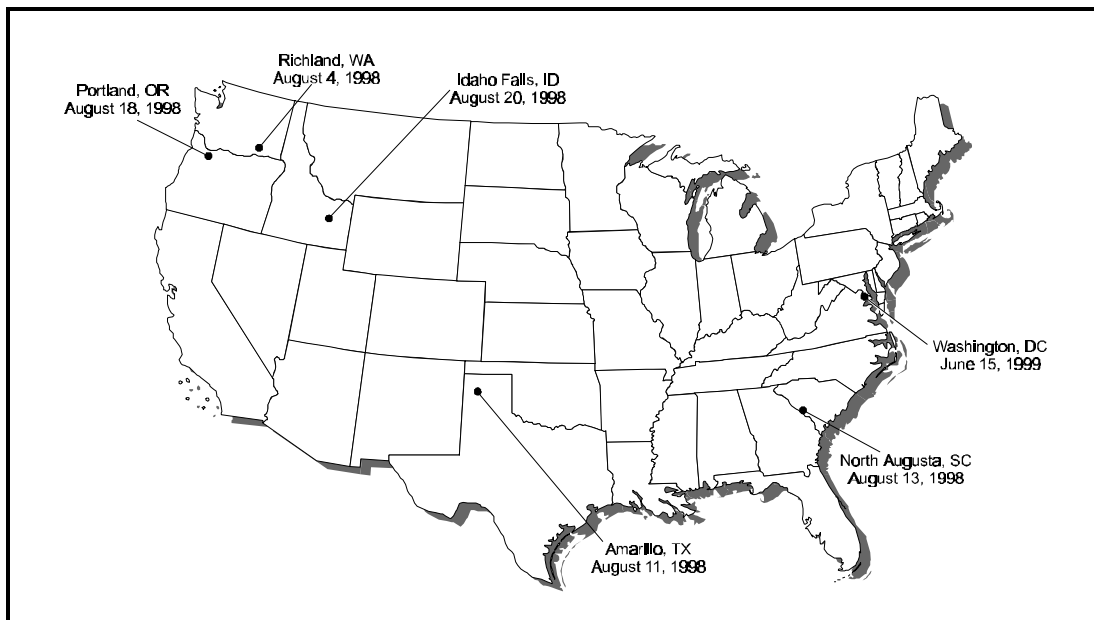


Figure 1–1. Dates and Locations of Public Hearings

Table 1–1. Hearing Attendance and Oral Comments

Public Hearings	Attendance	Oral Comments
Richland, WA	55	76
Amarillo, TX	450	145
North Augusta, SC	963	48
Portland, OR	69	113
Idaho Falls, ID	26	56
Washington, DC	54	82
Total	1,617	520

Table 1–2. Document Submission Summary

Method of Submission	Documents Received
Hand-ins at public hearings	434
Fax	358
Mail	358
Postcards	2,234
Telephone	71
MD Web site (email)	34
Total	3,489

All comment documents and oral comments were then processed through the comment analysis and response system for inclusion in this Comment Response Document. Over 3,400 comment documents were submitted by various individuals and organizations on the SPD Draft EIS and 77 were submitted on the *Supplement*. Analysis of these documents and unique oral comments resulted in the delineation of approximately 4,800 and 340 comments on the SPD Draft EIS and the *Supplement*, respectively. Each comment was then assigned to a

specific issue category. Responses developed for each delineated comment are identified by a response code that corresponds to the coding on the scanned comment document image.

Comments determined to be beyond the scope of the SPD Draft EIS and the *Supplement* were forwarded to the cognizant DOE office for consideration, as appropriate. Comments relating to the costs of the alternatives described in the SPD Draft EIS or specifically to the cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), were forwarded to the MD cost analysis team. The cost report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999) are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford Site (Hanford), Idaho National Engineering and Environmental Laboratory (INEEL), Pantex Plant (Pantex), Savannah River Site (SRS), and Washington, D.C.

1.2 ORGANIZATION

This Comment Response Document is organized into four chapters. Chapter 1 describes the comment analysis and response process, and Chapter 2, the changes made to this SPD Final EIS in response to public input and updated information. Chapters 3 and 4 present the scanned images of original comment documents and transcribed oral comments received during the public comment period for the SPD Draft EIS and the *Supplement*, respectively. The left side of the page is an image of the comment document marked with numbered sidebars to identify specific issues. DOE's response to each issue appears, correspondingly numbered, on the right side of the page.

The accompanying tables (Tables 1–3 through 1–8 and Tables 1–10 through 1–15) are designed to allow commentors to locate their comments regarding the SPD Draft EIS and the *Supplement* and DOE's responses to these comments. Commentors are listed alphabetically by last name or organization and grouped by State, along with the page number on which the comment document image and responses appear. A guide for locating specific comments and DOE's response is presented as Figure 1–2.

Documents identical in content are presented only once. Campaigns likewise are presented and responded to only once. However, campaign documents with additional comments were responded to separately. Commentors wishing to view comments and responses for specific issue categories should refer to Tables 1–9 and 1–16 for the SPD Draft EIS and the *Supplement*, respectively.

Appendix A is a copy of the transcript of an informational public meeting regarding the proposed use of MOX fuel which was sponsored by a South Carolina State Senator. This meeting, which was attended by DOE, was held during the comment period on the *Supplement*.

HOW CAN I FIND MY COMMENT AND DOE'S RESPONSE?

Note: Comment documents were assigned to a State based on the address of the commentor, a telephone area code, or the public hearing location.

For comments by members of Congress and Federal agencies:

Refer to Tables 1–3 and 1–10 for the SPD Draft EIS and the *Supplement*, respectively. These tables are organized alphabetically and grouped by State.

For comments by private organizations from foreign countries:

Refer to Table 1–11 for the *Supplement*. The table is organized alphabetically and grouped by country.

For comments by State and local officials and agencies and private organizations:

Refer to Tables 1–4 and 1–12 for the SPD Draft EIS and the *Supplement*, respectively. These tables are organized alphabetically by organization and grouped by State.

For comments by individuals:

Refer to Tables 1–5 and 1–13 for the SPD Draft EIS and the *Supplement*, respectively. These tables are organized alphabetically by the individual's last name and grouped by State.

For comments on multiple-signatory documents:

Refer to Tables 1–6 and 1–14 for the SPD Draft EIS and the *Supplement*, respectively. These tables are organized with individuals and organizations integrated alphabetically and grouped by State. A multiple-signatory document is one that has been signed by at least two individuals with different last names, and et al. is reflected in the image document heading.

For comments made at public hearings:

Refer to Tables 1–7 and 1–15 for the SPD Draft EIS and the *Supplement*, respectively. If you submitted a completed registration form, you can find your name under the appropriate hearing location. If you orally presented your views, then those views were summarized and are presented in this document. Similar views appear only once. These tables are organized by hearing location, with individuals and organizations integrated alphabetically.

For comments submitted as part of a campaign:

Refer to Table 1–8. This table sets forth the campaign subject and is organized alphabetically, integrating individuals and organizations. Every effort was made to decipher signatures, and those portions that were legible are included in the table. Unreadable names are accounted for under an "illegible" heading within the table. If you provided an additional, unique comment on a campaign document, that campaign document was treated as a separate comment and can be located in Tables 1–4 or 1–5. Signatories of the Statement of Nongovernmental Organizations on Plutonium Disposition submitted on the *Supplement* can be found attached to that statement.

Figure 1–2. Comment and Response Location Guide

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Citizens For a Healthy Planet, Kathryn Cumbow	3–313
Citizens Resistance, Infirmy II, Michael Keagan	3–315
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Port Huron, Honorable Gerald “Ajax” Ackerman	3–333
Sisters, Servant of the Immaculant Heart of Mary, Martha Rabaut	3–335
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Hanford Watch, Paige Knight	3–430
Oregon Health Sciences University, Martin Donahoe	3–444
Oregon Office of Energy, Mary Lou Blazek	3–445
Oregon Office of Energy, Michael Grainey	3–459
Public Safety Resources Agency, W.P. Mead	3–465
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Aiken Chamber of Commerce, June Murff et al.	3–517
Aiken Chamber of Commerce, Jeff Spears	3–518
Aiken County Commission for Technical Education, Joe W. DeVore et al.	3–521
Aiken County Commission on Higher Education, Gasper L. Toole, III	3–522
Aiken County Council, Honorable Ronnie Young	3–523
Aiken County, South Carolina Legislative Delegation, Honorable Thomas Beck et al.	3–525
Aiken Regional Medical Centers, Richard H. Satcher	3–526
Allendale County Council, Honorable J.W. Wall, Jr.	3–527
Allendale County Chamber of Commerce	3–528
American Nuclear Society-Savannah River Section, John Dewes	3–529
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Barnwell County Chamber of Commerce, Dennis Hutto	3–535
Barnwell County Council, Honorable Harold Buchman	3–537
Barnwell County Council, Honorable Clyde T. Reed	3–538
Barnwell School District 45, James E. Benson et al.	3–541
Citizens for Nuclear Technology Awareness, Michael Butler	3–544
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South Carolina, Office of the Governor, Honorable David M. Beasley	3–651
South Carolina, Office of the Governor, Honorable David M. Beasley	3–653
South Carolina, Office of the Governor, Honorable David M. Beasley	3–654
South Carolina Treasurer, Richard Eckstrom	3–655
South Carolina Department of Commerce, Robert V. Royall	3–660
South Carolina Progressive Network, Bret Bersie	3–661
South Carolina House of Representatives, Honorable T. Scott Beck	3–662
South Carolina House of Representatives, Honorable Rudy Mason	3–666
South Carolina Senate, Honorable Brad Hutto	3–668
South Carolina Senate, Honorable W. Greg Ryberg	3–672
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South Carolina Universities Research and Education Foundation, Constantine Curris et al.	3–676
Southeast Environmental Management Association, Carl A. Mazzola	3–678
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The Pritchard Group, Constance J. Pritchard	3–681
Tri-County Economic Development Alliance, J. Calvin Melton	3–682
Tri-County Economic Development Alliance, Calvin Melton	3–683
United Way of CSRA, Keith Benson	3–685
Westinghouse Savannah River Company, Donald L. Speed	3–689
Westinghouse Savannah River Company, Richard Tansky	3–690
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Tennessee	
Tennessee Governor’s Office, Justin P. Wilson	3–699
Texas	
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Amarillo, Honorable Robert Keys	3–715
Amarillo, Honorable Kevin Knapp	3–717
Amarillo, Honorable Kel Seliger	3–719
Amarillo, Honorable Trent Sisemore	3–723
Amarillo Association of Realtors, Inc., Randy Jeffers	3–725
Amarillo Chamber of Commerce, David Wilks et al.	3–726
Amarillo College, M. Karen Ruddy	3–727
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Amarillo Economic Development Corporation, Debra Ballou	3–730

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Amarillo Economic Development Corporation, Glenn McMennamy	3–734
Amarillo Economic Development Corporation, George Raffkind	3–736
Amarillo Globe-News, Garet von Netzer	3–738
Amarillo Hispanic Chamber of Commerce, Gilbert Guzman et al.	3–741
Amarillo National Resource Center for Plutonium, Richard Hartley	3–742
Amarillo National Resource Center for Plutonium, K. L. Peddicord	3–743
Amarillo National Resource Center for Plutonium, Angela L. Woods	3–745
Battelle Pacific Northwest National Laboratory, Kimberly Baker	3–755
C&B Printing, Dennis Clouch	3–760
Carpenters Union Local 665, James N. Brookes	3–763
Cattle Company, Jay O’Brien	3–764
General Services Commission, Roger Mulder	3–774
General Services Commission, Roger Mulder	3–781
International Guards Union of America, Local 38, Randall Skinner	3–836
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MRD Investments, L.L.C., D. Edward and Melva M. Davis	3–862
NUNN Electric Supply Corporation, Joe D. Brewton	3–864
Panhandle 2000, Jerome W. Johnson et al.	3–867
Panhandle Area Neighbors and Landowners, Doris and Phillip Smith	3–870
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STAND of Amarillo, Inc., Don Moniak	3–926
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STAND of Amarillo, Inc., Don Moniak	3–977
Texas, Lieutenant Governor, Honorable Bob Bullock	3–991
Texas A&M University, John M. Sweeten	3–992
Texas AFL-CIO, Joe D. Gunn et al.	3–997
Texas Building and Construction Trades Council, Gale Van Hoy	3–1000
Texas House of Representatives, Honorable John Smithee	3–1002
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The Center for Legal and Social Justice, Tadeo Spike Zywiski	3–1014
The Metal Trades Council of Amarillo, Texas and Vicinity, Ronald W. Zerm	3–1017
U.S. Army, Stacy R. Rusk	3–1020
Underwood, Wilson, Berry, Stein & Johnson, P.C., James W. Wester	3–1021
Wonderland Amusements, Inc, Paul D. Borchardt	3–1025
Virginia	
Virginia Department of Environmental Quality, Michael P. Murphy	3–1027
Washington	
Benton County	3–1034
Hanford Atomic Metal Trades Council, Keith A. Smith, Jr.	3–1052
Hanford Communities, Honorable Larry Haler	3–1055
Hanford Communities Governing Board, Honorable Larry Haler	3–1059
Pacific Northwest National Laboratory, Walt Apley	3–1079
Richland, Pam Brown	3–1084
STMC Sisu Technical and Management Consulting, Ronald C. Liikala	3–1089
Tri-City Industrial Development Council	3–1095
Tri-City Industrial Development Council, Sam Volpentest	3–1101
WA Mfg. Services, WSU-TriCities, William T. Sellers	3–1105
Washington, Office of the Governor, Honorable Gary Locke	3–1106
West Richland, Honorable Ken Dobbin	3–1107
West Richland, Honorable Jerry A. Peltier	3–1108
Washington, D.C.	
Natural Resources Defense Council, Thomas B. Cochran	3–1119
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Day, Helen Charlene	3–772
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Erwin, Inez	3–778
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Anonymous	3–1182
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Owen Kean	
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Andrew George	
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Michael Anacleo	
Fred B. Cavanaugh	
Beverly D. Clyburn	
Karen M. Paponshado	
Robert Perry, Jr.	
Lessie B. Price	
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William Clyburn	
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Thomas Moore	
W. Greg Ryberg	
Charles Sharpe	
Roland Smith	

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Sue Black	
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Donald Kitt	
James McCormack	
Reed Swann	
John Young	
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Nuclear Control Institute	
Edwin Lyman	
Nuclear Information and Resource Service	
Mary Olson	
Physicians for Social Responsibility	
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James Riccio	
Safe Energy Communication Council	
Linda Pentz	
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Thomas, J. Stone	
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Wayne Clough (ERDA)	
Thomas Cole (ERDA)	
Constatine Curris (SCUREF)	
Leroy Davis (SCUREF)	
James Edwards (SCUREF)	
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Carl Patton (ERDA)	
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Tony Quezada	
Panhandle 2000	3–867
Jerome W. Johnson	
Wales Madden, Jr.	

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John Stradley	
Arthur Ware	
Strick Watkins	
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Joe D. Gunn	
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Washington	
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August 4, 1998—Richland, Washington (Hanford Site).....		
Afternoon Session		
Associated Press Linda Ashton	Munn, Wanda Nesary, Marlene	U.S. Department of Energy Scott Puris
Eckard, Connie	Pasco	U.S. Department of Energy, Richland Operations Office
FFTF Technical Support Stan Scott	Honorable Charles Kilbury Richland	Rodney A. Almquist Douglas H. Chapin
Hagan, James	Honorable Larry Haler	George Dragseth
HGO Enterprises Gai Oglesbee	Siemens Power Corporation Dan Nauman	Paul Dunigan Jr.
Hildreth, Norton	Sisu Technical and Management Consulting	U.S. Environmental Protection Agency
ICF Kaiser Greg Clark	Ronald Liikala	Craig Cameron Dennis Faulk
Moore, Roberta	Supply System Joe Burn	U.S. House of Representatives, Honorable Doc Hastings' Office
Moore, Robert	Tri-City Herald	Joyce DeFlice
Moore, Victor	John Stang	
Evening Session		
B&W Hanford Company George Kulynych Jim Steffen	Fies, Carl Hoyt, Richard	Tri-City Industrial Development Council Harold Heacock
Ballard, Del	JAI Corpaoration Donald Clark	U.S. Department of Energy, Richland Operations Office
Battelle Pacific Northwest National Laboratory Walter J. Apley Jerry Ethridge	Los Alamos National Laboratory Dennis Padilla Roger Wishau	Peter Knollmeyer Shivaji Seth
Bechtel Les Davenport	Merrill, David Oregon Office of Energy Douglas Huston	U.S. Senate, Honorable Slade Gorton's Office Suzanne Heaston
Burk, Linda	Siemens Power Corporation Ronald Heiks	Venetz, Ted
DE&S Ralph Brackett	Supply System Joe Burn	West Richland Honorable Ken Dobbin Honorable Jerry Peltier
DESH, Inc. Jack Kalia	Szempruch, Rich	Williams, Richard
Eastern Washington Section American Nuclear Society Gerald Woodcock	Talbert, Robert	Wooten, David
August 11, 1998—Amarillo, Texas (Pantex Plant).....		
Afternoon Session		
Alpha Pavement Technology Incorporated Glenn Braudt Scotty Knutson	Amarillo Honorable Dianne Bosch Honorable Robert Keys Honorable Kel Seliger	Honorable Trent Sisemore Amarillo Association of Realtors Richard James Randy Jeffers

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Amarillo Chamber of Commerce	Battelle Pantex	Bruce Campbell
Joanne Brown	Kimberly Baker	Linda Caufman
Belle Gage	Jeff Flowers	Selina Chaires
Jim Henson	Robert Foulston	Joseph Clark
Stacy Knight	J. Gantos	Charles Clinton
Gary Molberg	Barbara Nava	Doug Connally
Larry Stalcup	Belisle, Mavis	Charles Dodd
Diane Vincent	Carnes, Roberta	James Dronigo
Amarillo Economic Development Corporation	Claughton, J.C.	Randy Enger
Michael Bourn	Conklin, Danny H.	Gilbert Fajardo
Gilbert Guzman	Crafts, Clarence Rashada	Billy D. Faubion
Bob Juba	Don Harrington Discovery Center	Charlene Ferguson
Glenn McMennamy	Thomas Halliday	Johnny (Rick) Flores
Amarillo Globe-News	Exell Cattle Company	Lyle Fussell
Jim McBride	Lee T. Bivins	Pam George
Garet von Netzer	First Bank Southwest	Cynthia Gilbreth
Amarillo National Bank	Don Dodson	Kenneth J. Gomez
Jud Simmons	Will Miller	Michael R. Grusson
Amarillo National Resource Center for Plutonium	Joe M. Stange	Debra Halliday
Sandy Alvarez	Tommy Tyler	Phillip Halsted
David Barnes	Gray, David	Mike Haywood
Carl Beard	H. Lichte and Associates	Perry Hoag
Lois Cook	H.W. Lichte	J. H. Honea
Cathy Dixon	Hickman, Joyce	Dennis Huddleston
Richard Edmondson	Ivy, Deloris	Havon Knighton
Shirley Floyd	Ivy, Gordon	John F. Lemming
Debbie Frymoyer	Kaczmarek, Doris	Jarrell Long
Effie Harle	Keep Amarillo Beautiful	Penny Lucero
Richard Hartley	Dusty McGuire	Wally Moulder
Mark Hendricks	KFDA	Michael O'Connell
Robin Hightower	Sarah Fisher	Jimmy Phillips
Linda Peirce	Kraft, Trudy	Fred B. Ramirez
Beth Perry	Lehigh University	Ray Rusk
Leah Dawn Storey	Kenneth Kraft	David Smith
Christina Vincent	Machinist Union Local Lodge 1255	Sam Sottile
David Watson	John Taylor	April Stotts
Yvonne Weeg	Mason and Hanger Corporation	Paul Teichmann
Angela Woods	James Angelo	Julie Terry
Elda Zounar	Donnell Asberry	Willie Watson
American Real Estate Services	Gary Ashlock	William Weinreich
Cristal Robinson	Larry Backus	H. Anthony Woltermann
Ames, John	Curtis Broaddus	Robin Woolsey
Ana-Lab, Keri Brigham	J.R. Buchanan	David Yeager
Angelo, Chris	Douglas K. Burton	Metal Trades Council of Amarillo
Angelo, LaDonna		Frank W. George, Jr.
		John F. Meese
		Metal Trades Department, AFL-CIO
		Gordon Baxter

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Moore, Donald	STAND of Amarillo, Inc. Don Moniak	Texas Tech University Kathleen Harris
Nations Bank	Trish Neusch	The Metal Trades Council
Steve Brunson	Texas A&M University	Ronald Zerm
Louis Cardwell	Ian Hamilton	TN Tech
David Hemphill	James Lohaus	Kenneth Krieger
Shawyna Stump	Kenneth L. Peddicord	United Association of Plumbers & Pipefitting Industry
New Century Energies	James C. Rock	Don Green
Dean Metcalf	Texas AFL-CIO	University of Texas at Austin
Panhandle	Walter Hinojosa	Alan Dutton
Chris Coffman	Texas Building & Construction Trades Council	Michael McNerney
Panhandle 2000	Gale E. Van Hoy	University of Texas System
Randy Erben	Texas Department of Health	Dale Klein
Brian Yarbrough	Gary L. Froemsdorf	U.S. Department of Energy, Amarillo Area Office
Pantex Plant Citizens Advisory Board	Joseph A. Martillotti	Vicki Battley
Sidney D. Blankenship	Texas Department of Public Safety	Mark Blackburn
Becky Lopez	Tom Castleman	B. Hollowe
Parkrut, R.H.	Texas District Council of Carpenters	Jerry S. Johnson
Peace Farm	James N. Brookes	Tom Walton
Paula Breeding	Texas House of Representatives	U.S. Department of Energy, Defense Programs
Petraglia, Jeffrey	Honorable John Smithee	Tracey Bishop
Plains National Bank-Amarillo	Texas House of Representatives, David Swinford's Office	U.S. Department of Energy, Federal Energy Technology Center
George Sell	Jenette Taylor	Steve Cooke
PNC Washington	Texas Senate, Honorable Teel Bivins' Office	U.S. House of Representatives, Mac Thornberry's Office
Takeo Kitazawa	Sharon Miner	Clay Sell
David Kornhauser	Texas Natural Resource Conservation Commission	West Texas A&M University
Potter County	Brad Broussard	B.A. Stewart
Honorable John Stradley	George FitzGerald	Westar Trade Resources
Purcell, Charles	David W. Hastings	Cindy Thyfault
Rekdal, Sheila	Judy Headlee	Westinghouse Savannah River Company
Rivas Environmental Consultants, Inc.	Shawn Hess	Gerald Hardin
Charlie Rivas Jr.	Joseph Panketh	Blake R. Seward
Ruddy, Karen	Janet Pichette	Wonderland Amusements, Inc.
Southwestern Bell	Texas Radiation Advisory Board	Paul Borchardt
Lew Bradshaw	Michael S. Ford	
Southwestern Public Service Company	Texas State Energy Conservation Office	
Hermilo Martinez Jr.	Venessa L. Gonzalez	
STAND-PANAL	Roger Mulder	
Jeri Osborne		
James Osborne		

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Alvarez, Juan	Brandon Whiserhurt
Amarillo Association of Realtors Raymond T. Fajardo Cindy Whitfield	Britten, Clifton Bull, Cristi Burke, Suzanne
Amarillo Claim Service, Inc.	Campbell, Betsy
Amarillo Globe-News Jim McBride	Campbell, Carol Ann Castleberry, D.
Amarillo High School Matthew Johnson	Cizan, Clifford
Amarillo Independent School District	Collins, Bettye
Helen Campbell Charles A. Campbell Helen Charlene Day Melinda Nakayama Leta Nixon Hanley Reynolds	Coppinger, Loretta Crall Products, Inc. Daniel R. Walsh Crown of Texas Hospital Brandee Backus
Amarillo National Bank Jayne MiFather	Crumley, Martha Dillaha, Bobby
Amarillo National Resource Center for Plutonium	Don Harrington Discovery Center Thomas Halliday
Sandy Alvarez David Barnes Carl Beard Cathy Dixon Richard Edmondson Bill Harris Richard Hartley Mark Hendricks Angela Woods Elda Zounar	Duncan, Bob Duncan, Bettie Ann Frying Pan Ranch Hackett, M.E. Harvey's Precision Body Shop Paul Elms Harvey Elms
Archer, Johnell	Hatfield, Roger
Battelle Pantex Tony Biggs Mickey Brown Larry Damron Jerome B. Martin Dave McBride Inge O'Brien Gloria Reynolds Lisa Vickers	Hatfield, Rusty Hernon, Donald Hispanic Chamber of Commerce of Amarillo Demetrio A. Quezada Houser, James M. Houser, Denise Howard Smith Company Realtors Carol Smith
Biddle, John	Hulquist, Jo Ann
Boy Scouts of America Christopher Carter Darren Haley J. Whiserhurt	International Guards Union of America, Local 38 Roger Lucas Kelly, Carter
	Law, Mike Lemming, Sandy Lockwood, Jeannine Los Alamos National Laboratory John Heneage Mason and Hanger Corporation Sherri Acker Mathe Altman B.J. Anderson Laura Bailey Robert D. Baker Ronald Barker Herbert S. Berman William Bingham Sheila Black Randy Boone Alan Booth Kathy Brack Leigh Bratcher Steven Briley Susan Britten James Brown Nolan Brown Christie Brown Richard Burke Vicky Lynn Caffee Ramon Camarillo Scott Campbell Leonard Castellano Selina Chaires Jesus S. Chavez Roger D. Chumney Glenn Cockrell Gary Cockrell Edgar J. Collier Larry Collins Michael Coppinger Deborah Daniel Marilyn Daves David Daves Rick Day Carolyn Demerson Tammy Denton Carey Dickerman Alan Egoodkin Inez Erwin Maria Fajardo Gilbert Fajardo

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Mason and Hanger Corporation (Continued)	Steven Larsen
Sarah Fansler	Louie Lincoln
Robert Farley	Janelle Loftin
Monte Ferguson	DeAnn Long
Gerald Findley	Jarrell Long
Michael Foster	Brandy Lyles
Jack Francis	Chris Lyles
Michael L. Fureigh	Jeff Manspeaker
James D. Gallagher	Glenda Martin
Frank Garcia	Daniel Martin
Jose Garcia	Kay Mask
Dale Garner	Richard Maxey
Pam George	Shane McFather
Sandy Gilmore	Brian McKnight
Denis Glasscock	Forrest McLaughlon
Kenneth J. Gomez	David Meyer
Kathryn Griffin	Erma Mitchell
Steve Hallett	Stephen R. Moore
Debra Halliday	Cathie Nall
Jim Harbin	Roger Nance
Cathie Harris	Darlene Nunn
Donna Hatfield	Michael O'Connell
Chris Herring	Johnny R. Painter
Charles Hills	Dudley Parker
J.D. Hinton	Ronnie Payne
Walter A. Howard	Casey Phillips
Richard Hulquist	Jimmy Phillips
Dave Humbert	Maurice Pierson
David Irons	Jane Pinkston
Jerry Ithaca	Raul Pompa
Shirley Jackson	Ruben Pompa
James Jay	Gary Proffitt
Robert Johnson	Cathy Prosser
Connie Johnson	Paul Ptashne
John Johnson	Lola Ptashne
Paul Johnson	Don Ray
Bruce Johnston	Denver Redwine
Troy E. Jones	J. Blair Rhodes
Francis R. Jones	Jeff Rices
Robert Karrh	Erin Richardson
Scott Kennedy	Allen J. Roberts
George Kenney	Rene Rodrigez
Heidi Kenney	Elizabeth Rodrigez
Jerry King	Edward D. Sain
Pam Klahr	Elvis Sain
Michael Knight	Ramon Saldana
Mark Kopke	Patrick Sanchez
Tyfani Lanier	Glvira Sanchez
	Lavon Sauage
	Mike Schmidt
	Daniel Schmitt
	Mark Self
	Joe Sexton
	Randall Skinner
	Mark Smith
	Chester Smith
	Richard Kevin Smith
	Paul Sowle
	Terry Spangler
	Walter Starr
	Susan M. Steen
	James Stevens
	Don Strattin
	Herald Summers
	Annette Teter
	Kevin Teter
	David J. Toledo
	Leon E. Tomlinson
	Dennis Trent
	Lisa Trevino
	Billy Tucker
	Manuel Vallassor
	Clyde J. Vanarsdall
	Linda Vickers
	Patricia Walsh
	Bob Wells
	Jan Whaley
	Lawrence V. Whicker
	Jerry Williams
	Howard Willis
	Wilbur L. Willson
	Gary Winters
	H. Anthony Woltermann
	Jeff Yokum
	Frank S. Zamora
	Darla Zerm
	Maxie, Donald
	Metal Trades Council
	Ronald Zerm
	Metal Trades Council of Amarillo
	Frank W. George Jr.
	Mills, Robin
	Nations Bank
	Dusti Bradstreet
	S. Gearn
	Neusch, Kevin

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Neusch, Gayle	Texas Natural Resource Conservation Commission	B. Hollowe Tom Walton
Panhandle 2000 Randy Erben Brian Yarbrough	Richard Lee Joseph Panketh Janet Pichette	U.S. Department of Energy, Defense Programs Tracey Bishop
Papp, A.G.	Texas Radiation Advisory Board	U.S. Department of Energy, Federal Energy Technology Center
Petraglia, Jeffrey	Michael S. Ford	Steve Cooke
Quinto, Albert	Texas State Energy Conservation Office	U.S. House of Representatives Honorable Bob Inglis
Revell, Tim	Denise Brooks	University of Texas at Austin Alan Dutton
Revell, Cathy	Venessa L. Gonzalez Roger Mulder	Westinghouse Savannah River Company Gerald Hardin Jerry Hardin Blake R. Seward
STAND of Amarillo, Inc. Allen Finegold Don Moniak Billie Poteet	Thompson, L. O'Brien Trovino, Edward	Winters, Rosemary
Stewart Title Conny Sain	Tucker, Lynnette	Zamora, Luis Zamora, Gilbert
Texas A&M University Ian Hamilton Kenneth L. Peddicord	U.S. Department of Energy, Albuquerque Operations Office Richard Sena	
Texas Department of Health Gary L. Froemsdorf Joseph A. Martillotti	U.S. Department of Energy, Amarillo Area Office Mark Blackburn	
August 13, 1998—North Augusta, South Carolina (Savannah River Site).....3-1261		
<i>Afternoon Session</i>		
Aiken County Linda B. Eldridge	American Express Financial Advisors John J. S. Mead	Jasper B. Varn Jr. Bamberg County Department of Social Sciences Patricia Williams
Aiken Standard Craig Gibbs	American Nuclear Society- Savannah River Section John Dewes	Barnard, Jr., Doug Barnwell Albert Black
Aiken Technical College Don Campbell Howard Lobaugh Dennis C. Rogers James A. Schmidt Lynne Weldon Carolane Williams	Asbestos Workers Raymond Storey Augusta Tomorrow, Inc. Charles A. DeVaney	Barnwell City Council Benjamin Duncan Barnwell County Harold Buckmon Inez Collins Debra D. Fickling Vernon F. Grady W. A. Gripp Clyde T. Reed
Allendale Chamber of Commerce Joseph Vuknic	Azzaro, Karen B&W Savannah River Company Timothy C. Marks	
Allendale County DSS Linda H. Brigman Christi Kirkland	Bamberg City Development Association, Inc. Mary O. Olson	
Allendale County, Chamber of Commerce Anne Rice	Bamberg County Council Isaiah Odom	Barnwell County Chamber of Commerce Dennis Hutto

Table 1–7. Public Meeting Attendees by Location (Continued)

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Richard Lamar	Buding, Tam	Economic Development Partnership
Cathie Lynn	Camiser Corporation	Ernie Chaput
John H. Mole	Bryan Kane	Edward Jones & Co.
Barnwell County Council	Campaign for a Prosperous Georgia	Chuck Smith
Flowe Trexler	Rita Kilpatrick	Ehrhardt, William Edinger
Barnwell County Economic Development Commission	Campbell, Jean	EXCESS Facilities
Trevor Hamilton	Chem-Nuclear Systems	Tim Holloway
Barnwell School District 45	Francis Flynn	Fenstermacher, David K.
Valenda Black	James Latham	Floyd, Greg
Beatty, James N.	Cherry, Dorothy	Food Not Bombs
Bechtel Savannah River, Inc.	Christman, Wayne	Budd North
Thomas Ballweg	Citizens for Nuclear Technology Awareness	Foster, William
Douglas Barclay	Michael Butler	Fowke, James
Frank Berry	Arthur S. Greer	Frontroth, Ronald
Wayne Buxton	John Lindsay	Geddes, Danny
Joseph Conway	William C. Reinig	Geddes, Catherine
G. P. Crotwell	Clemson Extension Service	Geddes, Richard L.
Roger E. Davis	Terrell S. Smith	Gilbert, Lee
Gary Feenstra	Clyburn, William	Gilkison, Joseph M.
Craig Hamilton	Collins, Bennie	Goetzman, Rudy
Gordon A. Johnson	Collins, Willie C.	Graham, Lindsey
Robin Madison	CSRA Community Foundation	Gray, Peter
Bechtel Savannah River, Inc.	R. Lee Smith Jr.	Green's Christian Bookstore
Zane Madtes	Cude, Bonnie	Levi Green
Freddie McCrary	Denmark Technical College	Grosso, Vincent
Richard H. Moore, Sr.	Ambrish Lavanic	GSUGANE
Victor Navarro	Department of Social Services	David McBride
Brenda Reed	Wade Delle S. Moody	Harbour, John
Isaac L. Rucker	Duane, John	Hatcher, Martha
Paul Ryan	Duke Energy Corporation	Haynes, Benjamin
Ronald M. Simpson	Robert Van Namen	Haynes, Alice A.
Scott Valentine	Duke Engineering and Services	Hensley, Sr., George A.
Steve Welch	Christy Phillips	Herrera, Ruth
Bertsch, Lynn	Robert Sharpe	Herrera, Henry
Black, John	Dukes, Michael	Herrmann, Jack
Blackville, Joan McDonald	DuPont Savannah River Plant	HJG, Inc.
BNFL, Inc.	Harold M. Kelley	Harry Groh
Brent Daugherty	E. Blackburn Construction Co., Inc.	Holcomb, Perry
Stuart A. Kidson	Ernie Blackburn	Holtzscheiter, Bill
Richard Seaborn	Ebra, Martha	
Boettinger, William		
Booher, Sam W.		
Brown, Larry		
Brownawell, Jerry		

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Howard Lumber Company	Moore, Jacqueline	Sadowski, Ed
William Fair	Moore, Ann F.	Savannah River Diversification Initiative
Chuck Renfro	Morin, Annette	Lewis C. Attardo
Ed Selby	Murray, Alice	SCANA
Howell, Lee	NAC International	Keith Coones
Hudspeth, Jan	John Patterson	Schumpert, Marty
IBEW Local Union 1579	Nations Bank	Sconyers, Honorable Larry
Mike Greene	Mark Wills	SDT
International Union of Operating Engineers	Noah, Christopher	Henry Dingfelder
Russell N. Britt	Norris, Jan	Shedrow, Clayton
JHW International Corporation	North Augusta	Silver Leaf Construction
John H. Walker	Deloris Bodie	Dave Zimmerman
Johns, John	Lark Jones	Small Business
Johnston, Dean Campbell	Charles B. Martin	Robert Moody
Jones, John	Ken McDowell	Snelling, Honorable Elbert T. Moore
Jones, Paul B.	North Augusta Chamber of Commerce	Snyder, Terri
Kvartek, Ed	Lisa McElmurray	Software Solutions
Laborers International Union of North America	Briton Williams	John Gravelle
Clayton L. Plemmons	Olson, Charles	Somers, Edward
Law Office of Maria Reichmanis	ORA	Sonnenberg, Les
Maria Reichmanis	John Felak	South Carolina Department of Health and Environmental Control
Lawrence Livermore National Laboratory	Overman, Robert F.	Sandra
Thomas Gould	Paisley, Colleen Ackles	South Carolina House of Representatives
League of Woman Voters	Patton, Sonya	Honorable Wilbur Cave
Robert Kelly	People Sentinel	South Carolina Senate
Mary T. Kelly	Victor Hill	Honorable Brad Hutto
Local 283 Carpenter and Millwright	Polar Refrigeration	Honorable W. Greg Ryberg
Thomas H. Jenkins	Shannon Bohanan	Honorable J. Roland Smith
Los Alamos National Laboratory	Power Reactor and Nuclear Fuel Development Corporation	South Carolina State Treasurers Office
Thomas J. Farish	Hironobu	Richard Eckstrom
Madison, Michael	Randall, Bill	Spiker, Dyrke L.
Mason, Rudy	Randall, III, Boyd D.	SRP Federal Credit Union
Metro Augusta Chamber of Commerce	Reda, Louis	Gloria Greer
David Bell	Rice, Maurice	SRS Citizens Advisory Board
James West	Richmond County Health Department	Thomas W. Costikyan
Metropolitan Spirit	Danny Starling	Suzanne Matthews
Brian Neill	Roberts, John	Lane Parker
Milnes, Michael	Rogers, Bernice	
Moliassa, Richard	Rudisill, Tracy	

Table 1–7. Public Meeting Attendees by Location (Continued)

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SRS Retiree Board of Directors Dannie F. Walker	U.S. Senate, Honorable Max Cleland's Office	Michael Burch Paul Burket
Stephens, Kenneth W.	Scott MacGregor	Esther Burnham
Stone, Rick	U.S. Senate, Honorable Paul Coverdell's Office	Charles Burp Alan Busby
Stone & Webster Engineering Corporation Carl A. Mazzola	Donald R. Stewart	David Busch Sheryl Bush William Busser
Street, Gary H.	Vaneman, Nancy	Tom Butcher
Sumner, Wallace	Vargo, Michael S.	Charles Camino Michael Carlson
Sun Trust Bank Bill Thompson	Verenes, John C.	Muriel B. Carter Randall Cash
SWD, Bruce Saxman	Walter, Steven	Diane Cato Terry Chalk
SWM, Ralph Poling	Westinghouse Savannah River Company	Randolph M. Clarke Dan Clayton
Terrell, George	Lance Abbott	Carl E. Cliche Joseph Cohen
The Advertiser Herald Jerry Dugan	Gary Abell	Barry L. Coleman Mary Coleman
Thomas, Steven	Frederick Adams	Robert Collins Sally Comer
Thomas, Susan	Frances Alston	Calvin L. Cooks Barry Cooper
Tri-County Alliance Gretchen Birt Donnie Delk Jim Kears Carl L. Kilgus Calvin McHon Clarence Wright	Joseph Amari Trent Andes Ken Ashman Kirsten Aylward Richard Balser Jeff Barnes Dewey E. Barnes James Barry Carol Barry Patricia Baughman Douglas Bevard Prakash Bhende A. Bruce Bieling Linda Blackston Richard Blaine Allen L. Blancett Lynn Bouknight Keith M. Boyle Carl Bradford Toni Brantley Linda Bridgmon Robert Bromley Brad Brooks James Broome Douglas Brown David Brown Cindy G. Brown Rodney Brown Wes Bryan Willie J. Bryant James Buchanan James Bukovitz	Ed Corley Hank Cormany George Cox Phillip Croll Benjamin J. Cross Steve Crossland Andy Cwalina James Davis Harendra G. Desai John Dickenson Pat Dominey John P. Duane Erich Duhn Kenneth M. Dukes Charles R. Dynarski Eddie Eddins Roger Elmgreen Richard Emerson Debbie Etheridge John Fertic Dennis A. Fludd Lynn Forrester Victor Franklin Derriel E. Frazier
Tritium Maintenance DP Stacey Towner		
Unitarian Universities Fellowship of Columbia, SC Susan Corbett		
United Way of the CSRA, Inc. Keith Benson		
U.S. Department of Energy, Federal Energy Technology Center Jason Lewis		
U.S. Department of Energy, Savannah River Operations Office Jose Blanco Sonita Blanco Francis A. Bolton Craig Czuchna Dave Hepner Sherry Southern Zaddie R. Wilkins		

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Westinghouse Savannah River Company (Continued)	James R. Kramer	Mike O'Rourke
Lawrene G. Frelin	Ronald Kuhn	Ron Oprea
Marsha Furness	Malcolm Kyle	Eric Oser
Jennifer Garvin	James Lander	Constance M. Paino
Wilbur R. Gay Jr.	Kenneth Lane	Brenda Pearson
Melanie Gibson	Barry Langford	Wayne Peltay, III
Brian Givens	Bruce Lawrence	Ted Pennington
John Gladden	Mark Lindholm	R.S. Peters
Charles R. Goergen	Stanley Lipman	Furman Peters
Wayne Good	Steve Losgar	John M. Phillips
Talmadge H. Goodwin Jr.	Christopher Lwesi	Terry Pifer
Susan Grant	Sharon Lybrand	Thomas P. Powell
Ashley Griffis	E. Paul Maddux	Timothy H. Pratt
David Grimes	Robert Maher	Lessie B. Price
John Gunther	Jerry O. Marshall	Donald A. Pushman
Mary A. Gunther	Craig L. Martin	Bob Rabun
Steve Haines	Kenneth Martin	Margaret Rackliffe
Jerry C. Hair	Lynn Martin	Terry Rahm
C.G. Hardin Jr.	William Martin	Cleo Raiford
Mike Harrell	Charles Mastromonico	Thomas Riedl
Gordon Hart	Glenn Mathues	Napoleon Roberson
Charles F. Hatcher	R.S. Matthews	Cheryl Robinson
Monte Hawkins	Susan H. Maxwell	Anil Rode
Ava Hawkins	Edward Mayo	Philip Rodwell
Dawn Haygood	Walter J. McCain	Michael Roper
Julianna U. Hearn	Dan McCurry	David Rose
Ellen Heavner	David D. McGee	Shamain Rosenberg
James T. Herrin	J. Malvyn McKibben	Dennis Rote
Garth Hewlett	Duane McLane	Linda Rudd
Richard Hodson	Donald L. McWhorter	John Runnels
Robert Holler	Robert Meadors	Rick Runnels
Rosemary Holley	Jon Meier	Ronald M. Schroder
Laurie J. Hollick	Don Miller	Austin B. Scott
Charlotte Holly	Larry Milton	Betty Scott
Robert Hotter	Robert Minnick	John R. Sessions
Mark Hubbard	Lani Miyoshi	Thomas F. Severynse
Raymond Hunnicutt	Rod Mohammadi	Blake R. Seward
Kevin R. Jones	Mark A. Moody	Deborah Shedrow
Robert Jones	Jackson Moohy	David Shiplett
Clay Jones	Pat Morgan	James F. Smith
Timothy M. Jones	Richard M. Morris	Jeffrey A. Smith
Gregory Jones	Allen J. Morris	Hugh E. Smith Jr.
Larry R. Jones	James Morris	William K. Sokolo
John Jordan	Stephen Mundy	William Stevens
Wanda Joyce	Ted A. Myers	Renee Stewart
Jim Junker	Eddie Nicholson	Charles Strain
Charles Kearse	Charles Nickell	Eugene Strycula
Joseph Kelley	A.W. Nutt	Kent Sullivan
Phillip Kenhlen	Jerry O'Leary	Michael Swain

Table 1–7. Public Meeting Attendees by Location (Continued)

Affiliation/Attendees		Page
August 13, 1998—North Augusta, South Carolina (Savannah River Site)		
<i>Afternoon Session (Continued)</i>		
Westinghouse Savannah River Company (Continued)	Donna Moore Wesby	Williams Farm & Garden Center, Inc.
Richard R. Tansky	Quitman White	Frank Williams
Dennis Taylor	Valerie Whitehead	Williston
C. W. Thiessen	Thomas L. Williams	Michael Benjamin
Liz Thomas	Fran Williams	Richard Neely
Perry Thomas	Dean Williams	Thomas R. Rivers
Dennis Thompson	Robert Williamson	Windsor
Donna Tipton	Steve Willingham	Frank Mizell
Frank Utsch	David Wilson	Witters, John M.
William B. Van Pelt	Walter Wilson	Wood, Don E.
Ike Vaneman	Steve Wilson	WSMS
John P. Veldman	Calvin D. Wilson III	Jay Thompson
Donna Waddington	Clinton Wolfe	Zehr, Carl W.
Robert Walker	Jerry Wood	Zigelman, David
Don Waters	Gary Zimmerman	
L. C. Watson	Weymond, Henry C.	
Don Weathersbee	Whitmire, Dan	
<i>Evening Session</i>		
Adkins, Doug	Beaumier, Glenn	P. A. Smith
Aiken	Beaumier, Katherine	Ricky Smith
Michael Anaclerio	Bechtel Savannah River, Inc.	David Sullivan
Aiken Chamber of Commerce	Douglas Barclay	Denis Thomas
June Murff	Cassandra Bayer	Keith Thomas
Aiken County Council	Gerry Blume	Lee Wade
Ronnie Young	John C. Chatten	George Walden
Aiken County Council District 5	Marie Coleman	Ronald Walker
Dale Stephens	Willie Dominguez	John Wall
Aiken County Tax Assessor	Cecil Faircloth	Clary Williamson
Ida M. Jenkins	James Fay	Kevin Wilson, Sr.
Aiken Electric Cooperative, Inc.	Randall Forty	Ted Wineteer
Barry Glover	Mansoor M. Ghassem	Roger and Darlene Yancey
Aiken International Club	Tony Green	BNFL, Inc.
George Clare	Gregory Grenier	Pamela DelCastilho
Aiken Regional Medical Centers	Herbert L. Jackson Jr.	John Rovanssek
Richard Satcher	Louis Jones Jr.	Bowman, Tommie
Armitage, Charles	Richard E. Lackey	Boyd, Robbie
Asbestos Workers	Mike Lewis	Brigham, Patricia
Raymond Storey	Ed Manning	Brigham Properties LLLP
Ashworth, G. J.	Terry McNew	Lee Brigham
Augusta-Richmond Co.	Steve Miller	Brigham Properties, Inc.
Moses Todd	Bill Miller	William B. Brigham
Ballweg, Gearin	Sheryl Neal	Burns, Dan
Beaumier, Cynthia	Kathryn Norman	Burrus, George
	Babubhai Patel	
	Wilburn C. Sanders	
	James Shaver	
	Charles Smith	

Table 1–7. Public Hearing Attendees by Location (Continued)

Affiliation/Attendees		Page
August 13, 1998—North Augusta, South Carolina (Savannah River Site)		
<i>Evening Session (Continued)</i>		
Citizens for Nuclear Technology Awareness	Holmes, Frank W.	Khan, Ibrahim
Susan Cathey	Howard Lumber Company	King, Henry
Vincent C. Minardi	Donna H. Montgomery	King, Sue
John W. Paveglio	Hozey, Melanie	Knick, Joseph
Colclough, Wes	Hyde Park & Aragon Park Improvement Committee, Inc.	Kohl, Marilyn
Cook, Rich	Charles N. Utley	Kohl, James A.
Coral, Barbara	Demetria Utley	Laborers International Union of North America
Cordani, Robert	Hyde Park Committee	Edward E. Floyd
Dabrowski, Jan	Melvin Stewart	Lex, Thomas
Daniels, Janice	IBEW Local Union 1579	Local Union 1137
Drown, Wayne	Morris Beard	Moses Dumm
Duke Energy Corporation	Samuel Blythe	Lillie Mae Jones
Robert Van Namen	Richard Brown	Local Union 1137 (Laborers Training Center)
Duke Engineering and Services	Johnny Drake	Fred V. Truitt
Christy Phillips	Edward Dukes	Local Union 283
Robert Sharpe	Rodney Dye	Don Solki
Edenfield, Nancy	Danny Fincher	Los Alamos National Laboratory
Edward Jones & Co.	Mike Greene	Thomas J. Farish
Chuck Smith	Stanley Hampton	Lower Savannah Council of Governments
Elkins, Bill	Henry A. Hayden	Eric P. Thompson
Elkins, Susan	Johnny L. Jones	Lowry, Nancy
Eubanks, Carnell	Curtis A. Lockamy Jr.	Lowry, Greg
Fernandez Consulting	Raven V. Mason	Maiden City LLC
LeVerne P. Fernandez	James Rowell	Chris Baker
Fields, Betty	Anthony Ruvo	Malloy, Sondra
Flora, David	William Shoaf	Martinez Elementary School
Flora, Mary	Jay Veal	Lauren B. Williams
Geddes, Danny	Annette Veal	Matthews, Bob
General Physics	Thomas S. Yarbrough	McDaniel, Jeanne
David E. Neal	Ihnen, Menard	McQuinn, Mary
Gilkison, Joseph M.	Ingham, Robert	McQuinn, R.L.
Goldman, Barry M.	International Association of Heat and Frost Insulation	Medical University of South Carolina
Goldman, James	Dale R. Cullum	Seymour Baron
Gouker, Larry L.	International Brotherhood of Teamsters	Messick, Russ
Grefenstette, Paul	Marion Davis	Miles, Frankie
GTS Duratek	International Union of Operating Engineers	Miller, Ralph S.
James Pope	Russell N. Britt	Miller, Judi
Hall, Joe	Jenkins, Arthur	
Harrington, Cathy	Johnson, Tommie	
Heffner, James	Kay, Virginia	
	Kellner, Cindy	

Table 1-7. Public Meeting Attendees by Location (Continued)

Affiliation/Attendees		Page
August 13, 1998—North Augusta, South Carolina (Savannah River Site)		
Evening Session (Continued)		
Miller, Charles	South Carolina AFL/CIO	Walter, Johnson
Mitchell, Joyce W.	Donna Dewitt	WDQA
Murphy, Edward	South Carolina Department of Health & Environmental Control	Odus Francis
National Science Center, Fort Discovery	Crystal Shelly	Westinghouse Savannah River Company
David L. Keel	Spiker, A. H.	Dolores (Dee) Adkins
Nuclear Regulatory Commission	SRP Federal Credit Union	Denis J. Altman
Heather Astwood	Gloria Greer	Jimmy Angelos
Olson, Herbert	SRS Citizens Advisory Board	James Arflin
Patterson, Karen	Suzanne Matthews	Michael Baker
Pedde, Robert A.	P. K. Smith	James Barber
Perrett, Edward	Wade H. Waters	Donald Barfield
Piccolo, Steve	State of South Carolina	Robert Bayer
Plyler, Dianna	T. Scott Beck	Dan Becker
Poe, Jr., William Lee	Ed Buzen	Robert Boatwright
Power Reactor and Nuclear Fuel Development Corporation	Stejskal, Gerry	Terri Bolton
Hironobu	Stevens Creek Elementary	W. Brent Boore
Project Control Services	Carla Friel	Ken Boucher
Marc N. Peel	Tanner, Bobby	David Broaden
Quantum Grafix	Terrell, George	George Brodie
Jeremiah Strack	Tetra-tech NUS	Helen Brooks
Randall, Bill	William R. McDonell	Marilyn Bryce-Schanhals
Randall, Pat	Thomas, Allen	Mel R. Buckner
Rankin, D. Thomas	Torreyson, Anne	William M. Burroughs
Ray, Megan	U.S. Department of Energy, Savannah River Operations Office	Bruce Cadotte
Raytheon	Jay Bilyer	Ronald M. Campbell
William Lenz	Donald N. Bridges	Gary Cannell
Raytheon Engineers & Constructors	Christina Edwards	Michael Chandler
Roger Alley	Robert E. Edwards	Tim Chandler
RCS Corporation	Leonard C. Sjostrom	Dennis Cheeks
Carlos Garcia	U.S. House of Representatives	David P. Chew
Roberts, Elaine	Honorable Bob Inglis	Carl E. Cliche
Robertson, Sterling J.	USCA	John Cook
Rueter, Ruth	Maria Chandler	Virginia Cordova
SDMS	Utley, Anthony	Daniel Cox
Jane Faircloth	Verenes, John C.	Brent Craft
Shaver, Norma	Vest, Bobby L.	Richard Crafton
Silverton Apartments	Vichare, Raam	Kenneth W. Crase
Juanita Goldman	Villasor, Angel	Charles Crawford
Smith, Lorilyn	Wade, Wanda	Thomas Crouse
	Wade, Lola B.	Paul d'Entremont
		Vince Daly
		Jerry R. Daniels
		Paul T. Deason
		R. A. DeCastilho
		William Dill
		Walt Dyke
		James P. Elliot
		Steve Epperson

Table 1–7. Public Hearing Attendees by Location (Continued)

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August 13, 1998—North Augusta, South Carolina (Savannah River Site)		
<i>Evening Session (Continued)</i>		
Westinghouse Savannah River Company (Continued)	Donald Johnson	John Mealing
William D. Erwin	Edward F. Johnson	Suzanne Messick
J. Stuart Evans	Michael D. Johnson	Larry Milton
Scott Federman	Patricia Johnson	Mose Mims Jr.
James Ferrell	Stephen A. Johnson	William T. Mitchell
Glenn Fields	Todd Jones	R. Mike Mobley
Tim Flake	Robert Jones	Andy Mock
Sam Formby	Calvin Jones Jr.	Tim Moore
Thomas Foster	Jim Jordan	Jerome Morin
Geoffrey Fountain	Kirit Joshi	Richard M. Morris
Kenneth Franklin	Michael Kaplan	James D. Moss
Thomas J. Friel	Asa Kelley	David M. Mutos
Richard Frushour	Robert Kellner	Audrey Ogletree
Steve Glover	Albert Kennedy	Ted Padezanin
Charlene Goodman	John Keyes	Patricia Padezanin
Susan Goodwin	Stephen King	A. N. Padgett
Al Goodwyn	Paul Korinko	Marvin Peake
Donald Gordon	Ki Kwon	Steven Pinion
John Greenquist	Edward Kyser	C. J. Plummer-Wooley
Phillip Griffith	Charles Lampley	Peggy L. Plyler
Freddie Grimm	Susan Lance	Carol Polson
Joel Guilherme	Larry G. Lawson Jr.	David Poss
Surendra K. Gupta	Daniel Leduc	Dave Potocik
Apjinder Guram	Edward Leibfarth	Bill Poulson
Elizabeth Hackney	Andrew Lesko	Ken Powell
Donnie Hall	Karen Lesko	Chandra Prakash
Gary C. Hamm	David B. Little	Harriet Priestler
Harvey Handfinger	Susie Littrell	Richard Proctor
Hextonia Harden	Carla Loffin	Harry Pund
James L. Hardin	Doug Lowry	Rodney Rabon
C.G. Hardin Jr.	Chris R. Loyal	Kenneth L. Ramsey
Archie Hargett	Larry D. MacLean	Brent Rankin
Tim Harrington	Irwin Magerkurth	Robert & Betty Rapp
Robert Harris	Gerald Malloy	Alan Reed
Larry Harrison	Sharon Marra	Donald Reese
Tim Hasty	James Marra	William Rigot
Barbara Headrick	Hollis L. Martin	Thomas F. Ritt
Bruce Hewett	William H. Martin	Jerry D. Roberts
James O. Hightower	Lynn Martin	Johnny Robertson
Carl Hirst	Matthew Maryak	Thomas C. Robinson
Cynthia Holding-Smith	Robert C. Mason	George C. Rodrigues
Charlotte Holly	R.S. Matthews	Doris Rouse
Claudette P. Hopkins	William Mattocks	Kenneth Rueter
Richard Hopkins	Teresa A. Mayfield	Ed Russell
William Huiet	James McClard	Nader Sadri
Francis T. Iwuc	Martin McCrom	Charles Sanders
Al R. Jeffront	Terry McLane	Roland W. Sasser III
Jerrel Jernigan	Dwain G. McMullin	Mark Schmitz
Alfred T. Johnson	Donald L. McWhorter	Al Scott
	Betty Meadows	Patricia Scott

Table 1-7. Public Meeting Attendees by Location (Continued)

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August 13, 1998—North Augusta, South Carolina (Savannah River Site)			
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Westinghouse Savannah River Company (Continued)	Jimmie Stuberfield	Patricia Wiley	
Charles Sessions	Kent Sullivan	Lester Wiley Jr.	
Blake R. Seward	Randall W. Tatum	Steve Wilkerson	
Mike Shah	Gregory D. Teese	Fran Williams	
Vinay Sharma	Kevin Tietze	David Williams	
David Simpson	Stacey J. Timmerman	Robert Wilson	
Ray Skwarek	Leonard L. Trasko	James Wong	
Keith Slaughter	Michelle Trill	Keith Wood	
Bobby D. Smith	Dave W. Tuttel	Susan Wood	
Eric Smith	Tom Varallo	G. Todd Wright	
Kevin Smith	Clarence Ward	Henry I. Yamamoto	
Paul Smock	Clyde Ward	Reuben Yon	
Ron Sprayberry	Woodrow Ware	Robert M. Young	
Roger Staten	Marilyn Ware	Robin Young	
Pete Stevens	William F. Ware	George Zachmann	
August Stopf	John R. Wehr	James Zumwalt	
John Strack	Roger M. White	Yarbrough, Helen	
	Anatia Whittenburg		
August 18, 1998—Portland, Oregon (Hanford Site)			3-1279
<i>Afternoon Session</i>			
Anttila, Everett	Don't Waste Oregon	Oregon Office of Energy	
Bechtel	Lynn Sims	Michael Grainey	
Les Davenport	Germond, Norma Jean	Steven Sautter	
Boston University/Portland State University	Gray Panthers	Pierce, Allen	
Victor Nguyen	Gerri Peck	Supply System	
Broderick, John	Hanford Watch	Joe Burn	
Cobo, Ted	William Bires	U.S. Department of Energy,	
Crackerjacks Marketing	Heart of America Northwest	Chicago Operations Office	
David Milholland	Paige Leven	Bob Selby	
	Lodwick, R.		
<i>Evening Session</i>			
Bechtel	Grubmil, Ffej	Hansen, Robert	
Les Davenport	Hanford Action of Oregon	Hysko, David	
Butz, Andrew	Terry Hammond	Juergens, Kathleen	
Butz, Nathan	Chuck Johnson	King, Jame	
Currie, Ruth O.	Robin Klein	Laughing Horse Collective	
Dean, Alison	Hanford Advisory Board	Rayner Ward	
Demaria, Gregg	Dick Belsey	Lichtenwald, Daniel	
Dim, Everett	Hanford Watch	Markowitz, Sally	
Don't Waste Oregon	James Baldwin	McAdams, Paul	
Kathryn "Cherie" Holenstein	Owen Lindsay	McCarty, Mary	
Ferguson, Roger	Lynn Porter		
	David Reif		

Table 1-7. Public Hearing Attendees by Location (Continued)

Affiliation/Attendees		Page
August 18, 1998—Portland, Oregon (Hanford Site)		
<i>Evening Session (Continued)</i>		
McLoughlin, Maura	Portland Cable Access TCI	U.S. Department of Energy,
Mitchell, Phil	Carolyn Brunett	Chicago Operations Office
Muller, Patricia	Portland Critical Mass	Bob Selby
Murray-Hanson, Sheryl	Aaron VanDerlip	U.S. House of Representatives,
Nickum, Helen	Catherine Ward	Honorable Elizabeth Furse's Office
Norton, Patrick	Priebe, Millie	Ann Richardson
Oregon Office of Energy	Public Safety Resources Agency	Whitney, Holly
Dirk Dunning	W.P. Mead	Wilkins, David
Douglas Huston	Rainbow Family of Light and Love	Woman's International League for
Oregon Peaceworks	Riggs, Doug	Peace and Freedom
Claire Closmann	Robindottir, Jody	Barbara Drageaux
Peterson, Don	Russell, Robert	Betty June Marsh
Playford, Kristin	Scott, Courtney	
August 20, 1998—Idaho Falls, Idaho (Idaho National Engineering and Environmental Laboratory).....		
3-1323		
<i>Afternoon Session</i>		
Argonne National Laboratory-West	Jensen, Aroid	University of Idaho
Roger D. Haga	Jobe, Lowell	Maxine Dakins
Richard Lindsay	Lawrence Livermore National	U.S. Department of Energy,
Grant C. McClellan	Laboratory	Chicago Operations Office
Bacca, J. Paul	Melvin S. Coops	William A. Parmley
Coalition 21	Lockheed Martin Idaho Technology	U.S. Department of Energy, Idaho
George Freund	Company	Operations Office
Richard Kenney	Roger Henry	William H. Thielbahr
Coalition 21 and American Nuclear Society	Julie Merrill	Watanabe, Theodore
John C. Commander	Los Alamos Technical Associates	
Fritz, Mary Jane	Roger Mayes	
Institute for Energy and Environmental Research	Rickards, Peter	
Hisham Zerriffi	Snake River Alliance	
	Beatrice Brailsford	
<i>Evening Session</i>		
Coalition 21	Hampson, Walt	U.S. Department of Energy,
George Freund	Jobe, Lowell	Chicago Operations Office
Darnell, G. Ross	SAIC	William A. Parmley
Duke Engineering and Services,	J. D. Atkinson	Westinghouse Savannah River Co.
Toney Mathews	Jerry Hardin	Jerry Hardin

Table 1-8. Organization and Individual Commentors as Part of a Campaign

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Letter Expressing Support for the Disassembly and Conversion of Nuclear Weapons Plutonium Components at the Pantex Plant		
3-1347		
PIA Insurance Agency, Inc. R. N. Burks Pat Conley	Al Cunningham Maxey Dodson Gram Smith	
Letter Expressing Reasons for Not Supporting Plutonium Processing at the Pantex Plant.....		
3-1349		
Abell, Jane	Kroeger, Janet	Seewald, Katherine
Anonymous	Lebow, M.	Seewald, William Hughes
Artho, Edward and Virginia	Lebow, Sherri	Shennum, Mary L.
Atkerson, J. B.	Lippmann, Otto	Smith, Doris B.
Barclay, Gary L.	Locke, J.	Smith, Ernestine
Berg, Ruth Ann	Mathern-Jacobson, Scott	Smith, Greg and Michelle
Berry, Rick	Miller, Genevieve O.	Smith, Phillip
Black, Carla	Miller, Virginia M.	South Dakota Peace and Justice Center
Charless, Jr., Addis	Murphrey, David	Jeanne Koster
Clark, Robert A.	Murphy, J.	Stein, Janie
Clopton, Jim	Neusch, Gayle	Sull, Mary
Cole, Leslie	Newburg, Madonna E.	The Center for Legal and Social Justice
Cook, Jeanne W.	Newell, Virginia M.	Tadeo Spike Zywicki
Doyle, Christella W.	Office of the Americas	Torczon, Mary Jo
Duncan, Dorothy	Blasé Bonpane	Wadley, Robert Burns
Egbert, Lawrence	Owen, Weslie B.	Wancura, Marianne S.
Everett, Mike	Peace Farm	Warden, Dolly
Garcia, Danna and Bennie	Mary J. Nicholson	Warrick, J. E.
Gramstorff, Jeanne B.	Pluhar, Darwin and Jennifer	White, Jack W. and Betty E.
Hajeh, Linda	Recycled Country Sunshine	Wiedebush and Company
Helms, Pat G.	Penni E. Clark	Jeri Wiedebush
Hoffman, Kirby	Rireley, Mary Benton	Williams, Jim I.
Hollingsworth, Dale	Rogers, Erin	
Keevan, Marcia A.	Rudd, Mysti	
Kriedeman, Eddie Jean	Schlegel, Norbert	
Letter Expressing Reasons Why the Fuels and Materials Examination Facility at the Hanford Site Should Be Selected to Disposition U.S. Surplus Plutonium		
3-1353		
Burk, Linda	Johnston, Daniel C.	
Burk, Robert	Mensinger, Debbie L.	
Letter Expressing Support for Immobilizing All Surplus Plutonium and Rejection of the Mixed Oxide Fuel Option		
3-1355		
Abell, Jane	Beardall, Jr., William H.	Breeding, Paula F.
Artho, Edward and Virginia	Berg, Ruth Ann	Charless, Jr., Addis
Atkerson, J. B.	Berry, Rick	Clark, Robert A.
Barclay, Gary L.	Bieri, Alvenia	Clopton, Jim
Barfield, Ellen	Black, Carla	Cole, Leslie

Table 1–8. Organization and Individual Commentors as Part of a Campaign (Continued)

Commentors	Page
Letter Expressing Support for Immobilizing All Surplus Plutonium and Rejection of the Mixed Oxide Fuel Option (Continued)	
Doyle, John	Moran, John
Duncan, Dorothy	Murphrey, David
Egbert, Lawrence	Neusch, Gayle
Everett, Mike	Newburg, Madonna E.
Garcia, Danna and Bennie	Newell, Virginia M.
Gramstorff, Jeanne B.	Office of the Americas
Helms, Pat G.	Blasé Bonpane
Hoffman, Rosemarie	Owen, Weslie B.
Hollingsworth, Dale	Peace Farm
Keevan, Marcia A.	Mary J. Nicholson
Kroeger, Janet	Pluhar, Darwin and Jennifer
Lebow, M.	Recycled Country Sunshine
Lebow, Sherri	Penni E. Clark
Lippmann, Otto	Rireley, Mary Benton
Mathern-Jacobson, Reba	Rogers, Erin
Micon, Rastz	Rudd, Mysti
Miller, Dion O.	Schlegel, Norbert
Miller, Virginia M.	Seewald, Katherine
	Seewald, William Hughes
	Shennum, Mary L.
	Smith, Doris B.
	Smith, Greg and Michelle
	South Dakota Peace and Justice Center
	Jeanne Koster
	Spear, Gale
	Stein, Janie
	Torczon, Mary Jo
	Wadley, Robert Burns
	Warden, Dolly
	Warrick, J. E.
	White, Jack W. and Betty E.
	Wiedebush and Company
	Jeri Wiedebush
	Williams, Jim I.
Letter Expressing Support for Locating Disassembly and Conversion of Nuclear Weapons Plutonium Components at the Pantex Plant.....	
	3–1361
Adams, Dave	Baldwin Distribution Services, Ltd.
Adams, Jo	Dudley Baldwin
Alend, J. D.	Band, Lawrence
Aleroyd, Rita	Bankhead, Herbert
Alexander, Ray	Barnett, Roger
Almange, Kathryn	Barrett, Glenda
Alpha Pavement Technology, Inc.	Bass, Bob
Glen Bards	Bass, Othelia
Jimmy Gonzales	Beasley, Corinne
Scott Kit	Beasley, Matthew
Amarillo National Resource Center for Plutonium	Beck, E. J.
Elda D. Zounar-Harbour	Beldo, Dean
Amus, Joseph	Bend, D.
Armstrong, Barbara	Bentley, Penni F.
Arnold, Steven D.	Berner, Steve
Austin, Steven J.	Beyers, Kay
Baggett, Tony	Bigler, Christy K.
Bailey, David	Black, Brian
Bailey, Laura	Bonjour, Gail
Baker, Danni Jenkins	Borchardt, Paula
Baldwin, Kathy	Boyd, Ron
	Bradshaw, Lew
	Bradshaw, Lisa A.
	Bret, Joe
	Briarodt, Randy
	Brinkley, Tina
	Brooks, Virginia
	Brooks, William E.
	Brown, Dennis
	Brown, Jeanne
	Brown, Joanne
	Brown, Penny
	Brown, Samuel
	Bryant, M. D.
	Burd, Alan S.
	Burk, Norman
	Burkham, Todd
	Burkholz, Janice K.
	Burnett, Blaine
	Bush, Jr., Billy T.
	Bylee, John
	Bythany, Jr., H. R.

Table 1–8. Organization and Individual Commentors as Part of a Campaign (Continued)

Commentors		Page
Letter Expressing Support for Locating Disassembly and Conversion of Nuclear Weapons Plutonium Components at the Pantex Plant (Continued)		
C. D. Baldwin Trucking	Davey, Beverly	Gage, Belle
Charles D. Baldwin	David V. Eck and Associates, P.C.	Gaison, Gabe
Campbell, Carl	David V. Eck	Ganeg, Etasi G.
Campbell, Chris	Davis, Karen	Garcia, Lucy
Campbell, Jane	Davis, R. T.	Garrett, Jennifer
Campbell, Lyna R.	Deal, Patricia	Gez, Bruce
Campbell, Shimika	Dockery, Lori	Giles, Jr., Thomas A.
Canmour, Carl	Dunditt, R. L.	Gofertto, Sharon
Cantii, Mike	Duyman, John	Golden, Tommy
Carflell, Samuel H.	Dyer, Richard	Gosulck, Jack
Carrol, Lewis	Dyson, Bettye	Gowery, Elizabeth
Cash, Douglas	Dyson, Hershel	Graham, Jerry
Cash, Linda	Eaton, Paul W.	Grant, David
Casias, Beverly	Edmond Denton and Stephens, Inc.	Gray, Steve
Caulehey, Chris	Leann Cox	Greear, Kenneth E.
Chaires, Sefina	Edmond Denton	Green, Edith
Chapmon, Garland B.	Donald Galbraith	Gross, Don
Chernick, B. M.	Joann O.	Grove, Donald
Chez, Charles E.	Jackie Reeves	Gunnels, Susan
Chieders, Miles	Charissa Young	Hactis, Willie
Childers, G. L.	Edmondson, Ronald	Haddock, James K.
Christain, Chris	Edmondson, Richard	Hain, Joel
Christain, Randy	Elliot, Ronald	Halek, Alice
Coker, Johnny L.	Ellis, Brandi	Hall, James
Collert, Brian	Elm, Paul H.	Harlan, Jane
Collins, Bryan H.	Elms, Harvey	Harmon, Todd
Comer & Fielding Custom Builders and Designers, Inc.	Elms, Mrs. Harvey	Harrington Regional Medical Center
Mickey Comer	Everitt, Stephen	Linda D. Borden
Pebbie Comer	Fansler, Krystal	Bernard Cohen
Rod Fielding	Fasano, Lupe	Stephen Gens
Alison R. Love	Fassa, Helen Jewell	Harris, Lisa
Benona Love	Ferguson, M. Clay	Hartness, J. M.
Cooper, Roberta	Fine, James	Harz, Kelly
Couture, Celeste	Firoff, Stacey	Hather, Jill
Craule, Marcus	Flippo, Cindy	Haws, Stan B.
Crawford, Aundria	Floyd, Shirley	Haynes, Amelia
Creden, Jr., Deward	Foster III, E. R.	Haynes, Carl
Creil, Mitch	Fouphy, Cesar M.	Heidelberg, Jerry
Crook, Tresa A.	Fowler, Jana	Hellberg, Jeffrey W.
Curtis, Don T.	Frislice, Sylvia	Hepoy, Ronald D.
Dalrymple, S.	Frouth, Bob	Hernandez, Tobias A.
Dan, Stuart	Fugett, Neda	Herr, Jim
	Fyfe, Taylor D.	

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Herrell, Auther	Latte, Ray	McGuire, Dusty
Hilbert, Christy	Lawdermilk, Rocky	McKee, April
Hines, S. D.	Ledbetter, Clyde	McKeen, Sherry
Hintz, Jacque	Lewis, Chris M.	McNeill, Sharon
Holb, Fontroy	Lewis, D.	McWilliams, Barbara
Holloway, F.	Lindsey, Clifford	Meadows, Sharon
Holloway, Marty	Loeb, Jack	Meer, Karen
Hooker, Vicki	Lomoria, Abel	Meier, Jim
Hotmann, Mark	Lonalo, Brian	Michaels, Anne
Howell, Joe K.	Lopez, Becky	Mille, Rich
Illegible (36)	Lovett, Brock W.	Mitchell, Cray
Imie, Russell	Lyons, Bobby	Mitchell, Stephanie
Inez, Gary E.	Madden, Nita	Molberg, Paula
Ison, Dale	Maddox, Donna E.	Molberg, S.
Jackson, Chris	Maeder, D. R.	Mracley, John
Jackson, Donald E.	Magen, Gina	Mudroch, J.
Jackson, Mike	Magowik, Beverly	Muygu, Dawn
Jagler, Jann	Magowik, Sharon	Myer, Joanne
Jalori, Brian	Mahan, Cindy	Naraneta, John
James, Lendal	Malone, Heather	Navaj, Raymond
Janes, Randy	Malone, Wes	NcNabb, Patrick
Jobe, Alfred	Manning, Susan	Neal, Veronica
Johnson, Jim	Marer, P.	Newton, G.
Jones, Robert	Markus, Jeanine	Nicholson, Brad
K.E.W.	Martin, Devich	Nicholson, Jr., Robert
Kay, John	Martin, Sergio	Nixon, Dolores
Keene, Marilyn	Martin, William B.	Nodogil, Seth
Keene, Richard	Martinez, Brenda J.	Nuikodid, Darko
Keene, Tammy	Martinez, W.	Opitz, Lise Kin
Kidd, Don E.	Massey, Charles	Ortiz, Melisa M.
Kimbell, Iretta	Matheson, Pam	Ortiz, Willie
King, Grady	Mato, Michael L.	Othengren, Karen R.
King, James B.	Mayfield, Todd	Page, Sherry
Kite, David A.	McAfoos, Paula	Palmer, Kelly
Knight, Stacy	McAfoos, Rob	Parker, Rebecca
Kongdan, Seth T.	McCoffree, Robert	Parker, S. F.
Kuking, Matt	McCormick, Wayne	Patrick, Connie L.
Lacer, Lorene	McDawell, Jenn M.	Patrick, Kathleen
Lane, Dennis	McDonald, Lyle	Patrick, Michael H.
Lane, Dot	McElroy, Jimmy	Peters, Therese G.
Lane, Joe	McGee, Charlie	Pinkham, Amy
Lane, Kim	McGregor, Kay	Plates, Mary

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Prather, Linda	Sanchez, Louie
Prather, Pam	Sand, Danyell
Preston, Heronie	Sanders, Don
Preston, Kenneth	Sanders, Sherm
Preston, Robero E.	Sanders, Susan
Price, Sharon	Satterwhite, Chemayne
Propes, Mike	Savage, Tim
Prudential/Ada Realtors	Schecht, Nancy L.
Sue Lawrence	Schooler, Jim
Puryear, Mandy	Scott, E. C.
Rankin, Elizabeth E.	Scott, Jane
Rascoe, Joe F.	Seales, Ada L.
Reagh, J. W.	Sechrest, Sabrina
Reardon, Jane	Selman, Lucille
Reece, Doyle	Serf, Tricia L.
Reed, Carrie	Shackelford, Jerry
Reed, Peggy	Shafer, Jim
Reeves, Aileen	Shortell, Kenneth J.
Reid, Anne	Shumate, Carrie A.
Reid, Don R.	Shwartz, Bruce
Reynolds, Amy	Silk, Ron
Rhea, Donna	Simmons, Arlene
Richardson, Linda	Sims, Sophia D.
Riechen, L.	Skelton, Ronald
Riley, Karen	Slether, Gary
Rinale, Wendell	Smith, James B.
Ritox, Steve	Smith, Mary S.
Rivera, Shannen	Snyder, Sherry
Roads, Alethea	Souels, Mark
Roads, Paul E.	Southern, Leo
Robinson, Kelly	Spiker, Maxine
Rodriguez, Marsella	Stalcup, Larry
Rogers, David L.	Stanley, Thomas J.
Roland, Jennifer L.	Stein, Oliver
Ross, Raul	Stephens, Chris
Ross, Sam E.	Storage, Joe
Rowell, V. Nadene	Stouseth, Barbara
Rudder, Anita L.	Strader, Robert S.
Rudledge, Nellie	Street, Joe
Sabel, Jerry	Stubben, D. J.
Sabs, Jane L.	Sunnam, Brenda
	Switzer, Mita
	Taylor, Mandy
	Taylor, Nick
	Terry, Mike
	Teugh, John W.
	Thompson, Troy
	Thornberry, Jennie
	Tidmore, Jeff
	Tiel, Robert
	Todd, Frank
	Tucker, Tersa
	Tyler, Earl
	Ulalf, Lou Ann
	Valdez, John
	Vib, C.
	Vincent, Dianne
	Vogler, J. Mark
	Walker, Charles D.
	Wallace, Kelly
	Walsh, Angie
	Ward, Gary
	Ward, Jason
	Ward, Susie
	Washburn, Melissa
	Wath, J. L.
	Watson, Darian
	Weatherly, M. L.
	Weatherly, Sharon A.
	West, Linda
	White, Teri
	Wilfong, Richard R.
	Wilkinson, Michael D.
	Williams, Tammy
	Williamson, Sylvia
	Willinghour, C. G.
	Wilpent, Bobby
	Wilson, Betty
	Wilson, Valerie
	Wilson, Wayburn D.
	Wjae, Stan
	Woodruff, Jerry
	Wright, Carol

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Commentors	Page	
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Wright, Fred	Zachry, Rob D.	
Young, Robert L.	Zenor, Becky	
Petition Expressing Opposition to Mixed Oxide Fuel Transportation Across the United States 3–1363		
Abeane, Kathy	Blay, Dorina	Coleman, Allison
Adams, Mary	Blotshy, Kimberly	Coleman, Marsha
Adams, Mary G.	Bohs, Sally T.	Coleman, Melissa
Ady, Linda	Bond, Janice H.	Colo, Joan M.
Ady, Steve	Bostwick, Cynthia	Conner, John
Aiken, Sandee	Boven, Ron	Cook, Barbara
Alison, Thomas	Bradley, Sherry	Cousins, Helen
Allen, J.	Breining, Craig	Cowhy, Jack
Allen, Rex	Brettin, Rhett	Cowhy, James
Allen, Terry	Brickey, Ted	Crimmins, Joan
Ameel, Sally	Bright, Marilyn J.	Cumbow, Kathy F.
Anderson, Jean	Brown, Denise	Curie, Cmily
Appleger, Jennifer L.	Brown, Dennis	Dahl, J.
Applely, Barbara	Brown, Lola	Darezy, Mary
Ardigo, Ann M.	Bryant, Janice	Davis, Kelly L.
Arkins, Rob	Buckhanon, Colleen	Davis, Mary
Arnold, Bernard G.	Bulanda, Catherine	Davis, Sandra L.
Arnold, Tilda	Burg, Dawn	DeBell, Connie
Bachmann, Anne M.	Burg, Thomas	Dei, Patricia M.
Bachus, Jr., Orval	Burke, Genevieve	DePelsmaecker, Kim
Baillod, Jude	Burns, May	DeMaray, Sheri
Baker, Debra P.	Butler, Alice R.	Dennis, John R.
Barbier, Katherine	Cachean, Robert	Dennis, Linda
Barnes, Linda	Campbell, Elizabeth	DeVeicht, Kathryn
Basrai, Mary	Cantlin, Wayne	DeVought, Jerry
Bauer, George	Capanda, Michele	Dickey, Bartlett C.
Bearden, Patrick	Card, Suzen	Dinkel, Ilah
Beebe, Jan	Cargo, Louise	Donaghy, Carolyn
Behnke, Bob	Carmichael, Patricia	Dortman, Mary J.
Beller, Francis	Carreer, Samantha	Downing, Rodney L.
Bendall, Lori	Chapdelaine, Jean	Droesch, Louis
Bennett, Deanna	Charjot, Judy	Duffy, Mary Ann
Berardo, Norma Frances	Chiesa, Charole	Dugowolski, Patricia M.
Biernot, Marilyn	Chiesa, Maria	Duping, Charles R.
Biernot Kinna, Michele	Clark, Gretta M.	Easton, Gerry
Binna, Lee R.	Cline, Louie	Easton, Patricia M.
Bitzinger, Nancy P.	Cluney, Sheila	Eckert, Ben
Blair, Mark	Cochran, Jean	Edgerton, Jeffrey

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Edie, Bob	Kotermanski, Chris
Edie, Connie	Kovalcik, Christopher
Edwards, Robert	Kramer, Mino
Ehervier, Margaret	Krammer, Cindy
Ernst, Anne Marie	Lachance, Monique
Evans, Scott	LaPeire, Iva
Eveningred, Steven	Leonard, Rich
Everhart, Joycelyn	Lesuer, Sally
Falk, Leou	Lewinski, Daniel
Feil, Louis	Lewinski, Michelle
Feil, Sandra W.	Lieder, Keri
Fisher, Dorothy	Lieder, Matthew
Fisher, Linda	Line, Robert
Fisher, Robert	Litogat, Genevieve
Forest, Carrie	Lock, Sharron
Fretenborough, Norman R.	Long, Lee
Frumveller, Billie	Lyon, Steven R.
Gaffey, Chester B.	Machwski, Constance
Gaffey, Thomas J.	MacIntyre, Barbara Lee
Ganhs, Rose M.	Mackay, Jeanne
Gersky, Deborah L.	Marcellin, Joe
Gilbert, Pam	Markham, John
Good, Judy	McCarthy, Michael J.
Graham, Donald	McClelland, Jennifer
Gromek, Felice	McConnell, Jamie L.
Haar, Lois	McConnell, Timothy
Hack, Shannon	McCormick, Bill
Hall, Janice	McDonald, Dave
Hall, Kimberly	McDowell, Ginethea
Hampton, Jason	McFadden, Gloria
Hancock, Barbara	McFadden, Wesley
Hannon, Lori	McFran, Sharon
Harady, J.	McKeon, John
Harrington, Jeff	McKeon, Merisa
Harris, Norma	McLane, Eileen
Hartel, John	McPharlin, Mary Gale
Hartley, John	McQuistin, M. E.
Hartley, Ken	Meier, Shannon
Haviland, Bruce	Meikle, Lori J.
Hayeden Nixon, Karyn	Miodowski, Lori
Hayedon, Jeffrey D.	Mitch, Dean
Hayes, Becky	
Hazelman, Elmer	
Heath, Daniel L.	
Held, Rose Marie	
Henricks, Rita	
Hering, Kurt	
Herlih, Florence	
Hiehn, Pam	
Hildebiand, Arbutus	
Hinter, Melissa	
Hock, Gary R.	
Holmstrom, Holly K.	
Hopper, Mary Elaine	
Horan, Carol	
Hoskey, Phyllis	
Houghton, C. W.	
Hoyel, Andree Le	
Hunt, Stacy	
Huntington, Janice	
Hurley, Nanon	
Illegible (9)	
Irish, Cindy	
Israel, Anna M.	
Itsata, Gerald	
Jamison, Elizabeth	
Janicki, Jessica	
Joseph, John	
Jury, Bob	
Kammer, Cynthia	
Kandler, Patricia M.	
Karthals, Tammy	
Kaufman, Lou Anne	
Kean, Owen	
Kercher, Chris	
Keyworth, Hannah Mary	
Keyworth, Howard F.	
King, Lorna	
Kinish, Jerry	
Kipp, Deanna	
Kirstine, Lori	
Klaas, David	
Knoll, Sandra	

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Mitchell, Doris M.	Pontack, Suzanne T.
Moeller, Eugene	Porrett, Dorothy L.
Molloy, Thomas	Price, Gary
Molosky, Carol K.	Prieskorn, Juanita
Morton, Harold	R., Lorraine
Moshrak, Larry	Ragan, David
Motte, Nancy	Ralston, Margaret
Mueller, Deanna	Raludue, Debra H.
Murphy, Sr., Jerry	Ramsey, Carl
Myron, Harland E.	Rathje, Pat
Noetzel, Emily	Ravin, Val Jean
Noetzel, Eric	Rayman, Pam
Noetzel, Kathy	Raziel, Mike
Norton, Patti	Renno, Marian
Norwicki, Patricia	Retito, Nichole
Nuernberg, Melody J.	Rick, Sharon
Nuezkiewicz, Ruth	Rinker, Elene
O'Barsky, Staci	Ritter, Jacqueline
O'Barsky, Thom	Robb, Stacey
O'Brien, Beverly J.	Roberson, Diane M.
O'Connor, Kim	Roberts, Beverly
O'Mally, Pat	Roberts, Patricia A.
Oden, Laurie Ann	Robertson, Marie
Older, Mark	Robertson, Mary Ann
Oliver, William	Robinson, Pauline
Olshove, Amy	Rogalski, Dawn S.
On, Melissa	Rolls, Robert
Osborne, Anne	Rorihe, Johnu
Parent, Jeff	Roy, Karen
Parent, Judy	Ruby, Kathy
Parker, Jessica Lee	Ruedisuili, James C.
Paterson, Grace F.	Runyer, Penelope
Patnales, Gregg	Ruxey, John
Pedigo, Charles	Ryan, Gary D.
Pedigo, Dorothy	Ryan, Mike
Peltier, Patricia	Sabb, LaDon
Pemberton, Patricia L.	Sadlowski, Kelle
Petit, Mike	Saolowski, Richard
Petz, Nate	Schafer, Heidi
Phillips, Judy	Schef, Betty
Pitts, Roger	Schef, Daniel F.
Plant, Sheri	Schef, John
	Schef, Nora
	Schieke, Gerald
	Schmitt, Amy
	Schneider, Jeff
	Schott, Paula
	Schreiber, Sheila
	Schumacher, Ed
	Schweihofer, Sue
	Schweihofer, Tom
	Scott, David
	Scott, Helen
	Seely-Rajnay, Sandy
	Senart, K.
	Setter, Lillian Jean
	Sharpe, Diane
	Sharrow, Timothy
	Shell, Phyllis
	Shirkey, Susan
	Shonk, Paul N.
	Shouk, Kim
	Shovan, Alice I.
	Siewort, Virginia J.
	Sigle, Donna
	Skunuce, Chris
	Smeltzer, Marsha
	Smith, Aurie S.
	Smith, Marcia B.
	Smith, Robert A.
	Smith, Ronald W.
	Snuggs, Amy
	Spezia, Matt
	Starkey, Margie
	Starkey, Robert E.
	Steece, Cheryl
	Steece, Kenny
	Steinhaus, Mary Jane
	Stephenson, Kim
	Stocking, Margaret A.
	Stocks, Elaine
	Stump, Clara
	Sturges, Frances M.
	Sutton, Margaret C.

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Swann, Hildig	Van Damme, Ward	Wiegand, Tim
Swann, J. K.	Vertigan, Kimberly L.	Wille, Rick
Sweeks, Marjorie	Virnocke, Joan	Winzer, Frederick
Sweet, Brenda	Wagenschutz, Susan	Wirth, Kurth
Sweet, Gloria K.	Wajciechowski, Janet	Wiseley, Duane
Swowitz, Arnold	Walker, Beverly J.	Woock, Mary L.
Sylla, Sammye Kaye	Ward, E.	Wood, Dana
Taylor, Eleanor	Ward, Gary	Woycinski, Irene
Taylor, George	Watson, David	Yeashuvich, Joyce
Tenyer, Rosemary	Watza, Charles J.	Young, Pauline M.
Thomas, Frances L.	Watza, M. Noreen	Young, Roberta
Thompson, Amanda	Wegner, Carol	Young, Thomas
Thompson, Dawn	Wenzel, Nancy	Zambelli, Karen
Thompson, Katherine	Wesbrook, Carolyn	Ziegler, Herbert
Thompson, William	Westrick, Nickie	Zimmerman, Stan
Townsend, Wendy	White, Ben	Zwiernik, Julie
Trombly, Denice	White, Chuck	Zwiernik, Susan
Tyson, Gordon	White, Phyllis	
Van Brande, Brenda	Whitesell, Jessie	
Petition Expressing Support for Siting the Pit Disassembly and Conversion Facility at the Pantex Plant 3–1367		
A., Carol K.	Ayold, Karly	Berum, H. S.
A., Dawayne	B., D.	Biddle, John
Acker, Sherri	B., N. J.	Biggs, Tony
Ackin, Judy	B., Rollin	Black, Sheila K.
Ahson, Joe	B., S.	Blum, Mike
Alexander, Brian G.	Backus, Brandee	Boar, Michael
Altman, Douglas	Backus, Larry	Boese, Connie
Altman, Mattie	Bailey, Laura	Boone, Randy
Altschwager, Carl F.	Baker, Kimberly	Booth, Alan
Amos, Martin	Banientez, Juan	Bostick, Debbi
Anders, Johnny	Barket, Ronald	Boudreau, Renee
Anderson, Bennie	Barrett, Patti	Bowman, W.A.
Anderson, Fred G.	Barrings, Ernest	Boyn, Larry E.
Anthony, F. W.	Barta, A. S.	Bradstreet, Dustin
Anthony, T.	Bartlett, Ronda J.	Bremer, Carol
Anton, Richard	Barton, Blaine	Briggs, Bettye S.
Arney, Dennis	Baucom, Kaye	Bright, Al
Asbury, Donnell	Bauera, Gloria	Broggley, Jim
Ash, Tom	Bell, Doyla	Brooks, Anthony
Ashlort, Gary	Benner, Helen S.	Brookshire, Doug

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Brown, Christie	Cave, Claude	Darnell, M. L.
Brown, David	Chairs, Selina	Darrah, Bill
Brown, George	Charley., John	Daves, Jimmy
Brown, Mickey	Chavez, Jesica	Daves, Marilyn
Brown, Randy	Chavez, Robert	Daves, Marilyn
Buchanan, J.	Chuley, John T.	Davis, Danny
Bull, Cristie	Clark, Clifford	Davis, Dolores F.
Bullington, W. S.	Clark, J.C.	Davis, James N.
Bullock, Robert A.	Clark, Janice	Day, Helen Charlene
Burk, Judith L.	Clark, Joseph	De Los Santos, Sofia
Burows, Doug	Clift, Earl	Deicer, Randy
Butten, Clifton	Clilbers, Jay	Dell, Steve L.
Butten, Susan R.	Clinton, Charles	Demeison, Carolyn
C., Jay	Cochrell, Gary D.	Demerser, Carolyn
C., Jimmy	Cockerell, Jr., Glenn	Dennis, Melina
C., Rick	Cockrell, Glenn C.	Denny, L. O.
Cabello, Lurie	Coffee, Vicky Lynn	Denton, Tammy
Caldwell, K. J.	Collier, Edgar J.	Diaz, Anna R.
Call, John R.	Collins, Bettye	Dickerman, Carey
Callen, Christi	Collins, Larry	Dillaha, Bobby D.
Camaurt, Ramon	Conklin, Woody	Does, Donald
Campbell, Betsy	Conn, Ken	Doreba, J.
Campbell, Bruce	Connally, Doug	Dossett, Bernard
Campbell, Charles A.	Cook, Ken	Dreny, A.
Campbell, Cleedel	Cookran, D.	Dresch, Shane
Campbell, Don	Cookroy, A. E.	Dressler, Shane
Campbell, Helen	Coppinger, J. W.	Druilar, Genny R.
Campbell, Scott	Coppinger, Linda	Duggan, James F.
Candera, Johnny	Cotney, B. K.	Duggan, Rowena
Capp, A.	Covell, Carol O.	Duncan, Glenn K.
Carlson, J. R.	Cox, Larry	Durham, Denise
Carnes, Rodney D.	Crosslin, Gracie	Dye, Lisa
Carrillo, R.	Crumley, Martha	E., Jannie
Carrole, R.	Crutchnor, Jim	E., Mark
Carte, Troy	Culwell, K.	E., R.
Cartellason, L.	Curtis, Roy E.	Eddleman, Alvin
Carter, Sharon	D., Allen	Edinert, Michael S.
Cartwright, Pam	D., Ray	Egoodkin, Alan
Cash, Wilham	D., S.	Egoodkin, L.
Cash, William	D., Sarah	Elliott, Shon
Casper, Sid	D., Tracy	Elvin, Paul H.
Castlebury, Duane	Daniel, Deborah	Emery, U.

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Erven, Inez	Henderson, B.
Eseamilla, Al	Herbert, Cliff
Estes, Virgil	Hernon, Donald M.
Evans, Edwin	Herrera, John J.
Evenson, Kim	Hicks, Alma A.
Fadlock, Janey	Hileman, Beau
Faggan, Zani	Hill, Charles
Fajardo, Maria	Hill, David
Fansler, Sarah	Hill, Randy
Fansley, Tony	Hilley, K.
Farley, Robert	Himm, Tedd
Feng, J.	Hintar, Terry
Ferguson, Monte	Hinter, J. D.
Ferguson, Jr., Warren D.	Holliday, Michael C.
Findley, Gerald	Holz, Jeb
Fingh, Jerry	Hoogson, Lisa
Fjatland, Barbara	Hooper, Harvey
Flores, Lias	Houser, Denise L.
Fogg, Karen	Houson, Lorie
Ford, Kim	Howry, Jr., Emmitt
Ford, Patrice B.	Huffer, Earl
Ford, Teri A.	Huffer, Emil
Foreman, Dinh	Hulquist, R.
Forseythe, W. H.	Hunt, Tim
Foster, Michael	Hurst, Sleria
Frasier, Sammy	Hutam, R. L.
Freeman, E. Renae	Huxsly, Art
Fry, Dustin	Illegible (55)
Fuller, Rodney	Irons, Daniel
Gadiman, Lucille	Irwin, Joe
Gadman, David	J., Art
Gage, Belle	J., Bob
Gaine, Roberto	, James
Galloday, S. E.	Janbrano, Louis
Gamel, Bill	Janer, Terry G.
Ganor, Annette	Jasper, Sid
Ganor, Richard	Jergenson, Monte
Gantor, Joseph	Jigel, Mary
Garcia, Frank	Jinney, Dennis
Garcia, Josi O.	Johannsen, Paula
Garett, Donnie	Johnny, Furser
Garner, Dale	
Gass, Kathy	
George, Jr., F. W.	
Gilbreth, Cynthia	
Gilmore, Sandy	
Glager, Dan	
Gooden, Ruthie	
Goodin, Glen	
Grant, Stacy	
Gray, David	
Green, E. J.	
Griffin, Kathryn	
Griffin, Ronald S.	
Griffis, James	
Grimes, Gary	
Gritten, Clifton	
Gublere, Van	
H., D.	
H., Damian	
H., Dan	
H., Josi M.	
H., William R.	
Habi, Jim L.	
Hacketz, Margerette	
Haggard, Randall S.	
Halford, Larry D.	
Hall, Beverly	
Hall, J. D.	
Haller, Fred	
Halliday, Debra	
Halsted, Phillip	
Hancock, Dayton	
Hancock, Jeff	
Hanson, Walter	
Harbin, Ann	
Harrelson, Misti	
Harry, Russell	
Hartzer, Charlene	
Hatfield, Donna	
Hatfield, Roger	
Hefley, Teresa	
Hefner, M.	

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Johnson, Deborah	Larken, Tully	Mares, Bob
Johnson, Jack	Larsen, Steve	Mares, Susie
Johnson, L. H.	Lassiter, Laquita	Marick, Aranelle
Johnson, Larry J.	Lateem, Eddie	Marin, Glenda
Johnson, Nicky	Laughten, Elmer	Marsh, Donna
Johnson, R. C.	Laur, Tommy	Martin, D.
Johnson, S.	Lawle, Terry	Martin, Daniel
Johnson, Warren	Leake, Tommy	Martin, Jerome B.
Jones, Francis	Leasure, Lanette	Mask, Kay
Jones, Melissa	Leather, Doyle	Massey, Tracy
Jung, Susie	Lede, Tim	Matlock, Harold
K., Michael	Lee, Clifton	Matz, L. M.
K., Rusty	Lemming, Sandy	Maury, Leon
Kaczmaule, Doug	Letto, Bing	Maxey, A. Kevin
Kahn, Martin D.	Lewis, Ernest	Maxey, R.
Kaper, Lomo	Lichte, S.	McAdams, R. M.
Keating, Michael D.	Lill, Terry	McBride, Dave
Keenan, R. W.	Limoger, Francis	McBride, Elizabeth
Kennedy, Scott	Lincoln, Louie	McCleung, Donald
Kenney, George	Locke, J.	McFather, Jayne
Kenney, Heidi	Lockwood, Jeannine	McFather, Shane
Kenyon, Bena	Lofka, Janelle	McLaughlin, Suzie
Kephe, Mark	Lolet, Larry	McMintz, Ley
Keths, J.	Long, DeAnn	McNabb, Angela K.
Kiester, Daniel M.	Lopez, D'Ann	McSelf, M.
King, Donnie	Lovelady, Curtis	McWilliams, Mark
Kinnison, Danny	Lowe, Lea	Mern, David
Kinnison, Don	Lowrey, Michael	Merriweather, Ken
Klahr, Pam	Lucas, Roger	Mesa, Cindy
Knight, Alexis	Lucero, Penny	Meyer, David
Knight, Jess	Lundberg, Janice	Meyer, Kenneth
Knight, Stacy	Lyles, Brandy	Meyer, Mary M.
Koply, Mark	Lyles, Chris	Miller, Justin
Korel, Robert	Lyn, Thomas C.	Miller, Russell
Krizan, Charles E.	Lyons, Trisha	Mills, L.
Kuehl, Rick	Lyons, Tristin	Mitchell, Cristal
L., Jerry	M., C.	Mitchell, Danny
L., John F.	M., Donald B.	Mitchell, Erma
Lair, Mike R.	Malone, Robert	Mogart, Kip
Lan, M. R.	Mann, Johnny	Moglia, Steven P.
Lanier, Scott	Manning, Ann	Monroe, Willie

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Montano, Robert	Phillips, Casey	Roberts, Allen J.
Moore, Billy J.	Phillips, Herman	Roberts, Jay C.
Moore, Jerry K.	Phillips, Katrina	Robinson, Johnnie
Moore, Mike	Pickett, Don	Rodriguez, Elizabeth
Moore, Steve	Pickett, Donald	Rodriguez, Roger
Morgan, Mille	Pierce, LaDena	Rogers, Gayle
Moronun, Carolyn	Pierson, Mark	Rogers, Jimmy C.
Morris, Clayton	Pierson, Maurice	Rosalin, Michael
Morrison, John A.	Pinkston, Jane	Rossiter, Len
Moser, Colin	Pollard, Vicky	Roudtof, Robert
Myers, Bill	Polley, Les	Round, Gerald E.
Nakayama, Melinda	Polvado, C. K.	Rowe, Robert
Nall, Cathie	Pompa, Paul	Ruiz, D.
Neeley, Ken	Pope, Linda	Russell, Shelly
Nelson, Pam	Potters, Juan	Ruzi, Bobby
Nixon, Leta	Prathe, Dennis	Ryan, Mike
Nolan, Richard	Pratt, Kay	Ryes, Caroline
Norwood, Bill	Proffitt, Gary	S., David
Nuney, Karen	Prosser, Cathy	S., David C.
Nymeyer, Jr., F.M.	Pryor, Jack	S., Edward Dean
O'Brien, Inge	Ptashine, Leslie	S., Jesse
O., John	Ptashine, Paul	S., L.
O., T.	Quillen, Rodney	S., Mark
Onyaryl, A.W.	Quinta, Al	S., Michael
P., C.	Quyade, Tony	S., Patrick
P., John	Quyulen, Tony	S., Rachelle
Painter, John	R., Artur	Sain, Elvis
Papp, A. G.	R., L. A.	Salazar, Esther
Parker, Don	R., Nadine	Sale, Daniel
Parker, Dudley	Ramirez, F. B.	Salen, Scott
Pate, Rich	Ranch, Melvin	San, Cenny
Pate, Thomas E.	Rank, Kay	Sanchez, Vera
Patterson, Doug	Raum, Margje	Sar, Robert
Patterson, Ed	Redeener, Wanda	Sarah, Lynn
Patterson, Pat	Reever, Leslie	Sarraah, Richard
Patterson, Steve	Renilla, Joseph T.	Savage, L. Faye
Payne, Mike	Reyls, Carol	Schapp, Ellis Dale
Payne, Ronnie	Reynolds, Gloria	Schmidt, Nick
Pearson, Susie	Rhoten, Mark	Scott, Betty
Perea, Norma	Rice, Roma	Scott, Sharon
Perreff, Chris A.	Richardson, Erin B.	Sena, Danny

Table 1–8. Organization and Individual Commentors as Part of a Campaign (Continued)

Commentors	Page
Petition Expressing Support for Siting the Pit Disassembly and Conversion Facility at the Pantex Plant (Continued)	
Serra, Sr., Pat	Thompson, J.
Session, Hugh	Thompson, L. O'Brien
Shafer, K. M.	Thompson, Marzella
Shaw, Paul A.	Thompson, Prissilla J.
Shelton, David	Tolby, Robert
Shelton, J. S.	Tomlinson, Leon E.
Shinah, Dan	Trevino, Edward
Shumaker, Donald E.	Trevino, Lisa A.
Sihl, Vickie	Triny, Susie
Sims, Carol A.	Tucker, Bill
Skinner, Randall	Tucker, Lynette
Smart, David	Tyler, Chris
Smith, Carol M.	Tyler, Ken
Soper, Mike	V., Barbara
Sottile, Lucy	V., J.
Spands, Darlene	Valdez, Johnny
Spaner, Jon	Vann, Candy
Spangler, Mike	Vaughn, Glenn
Spears, Belinda	Velasquez, Chuck
Speck, Paul	Velasquez, Filbert
Srygley, Jeff	Venhaus, Bernard
Stallings, Tom	Vereto, David
Stark, Mark	Vickers, L. D.
Steen, Susan	Vickers, Lisa
Stickrod, Anna	Vigil, Nick
Stoltz, April	Villceeso, M.
Stout, J. Dale	Vincent, Russell W.
Stratton, Don	Vincent, Tammy
Struckland, Ered	W., M.
Stultz, Bob	W., W. Scott
Summers, Cynthia	Walsh, Daniel R.
Summers, Harold	Walsh, Dave
Surser, Christi	Walsh, Patricia
Swingle, Anna C.	Ward, Robert M.
Taylor, Bill	Watkins, Sandra G.
Taylor, James	Watson, Gary H.
Taylor, Jeny	Weatherby, Nancy A.
Taylor, Stacey	Welch, Gregory W.
Terly, Julie	Welch, Linda
Teter, Annette	Whalen, David
Teter, Kevin	Whaley, Jan
Thaggart, Carol	Whicker, Lawrence
	Whilett, Russell
	Whitney, RussellC.
	Willard, Pete
	Williams, Dennis
	Williams, Jerry
	Williams, Ken
	Williams, Lee
	Williams, Leroy
	Williams, Linda
	Williams, Toni
	Winters, Gary E.
	Wodson, J.
	Wood, Flint
	Woodberry, Lorenza
	Woods, Angela
	Woodward, Larry
	Wooland, Dwayne
	Y., Dave
	Yaryl, John
	Yeger, James A.
	Yeger, M.
	Yokum, Nell
	Young, Kelly
	Yuger, Sandy
	Z., Donald
	Zamora, Frank S.
	Zamora, Gilbert
	Zamora, Lois
	Zerm, Darla
	Zerm, R. W.
	Zuniga, Sal
	Zuniga, Terri

Table 1–8. Organization and Individual Commentors as Part of a Campaign (Continued)

Commentors	Page	
Petition to Protect the Mission at Pantex	3–1369	
Allison, Pam	Donelson, Mary Margaret	Pale, John
Breeding, Paula	Donelson, Rusty	Peck, Karen
Comb, Cory	Finegold, Allen	N., Trish
Goucher, Martha	Locke, Joyce C.	Seewald, Carl
Donelson, Mary	Mills, Robin	
Postcard Citing Savings From Consolidating All of DOE’s Plutonium Disposition Missions at the Savannah River Site	3–1371	
Adams, Beverly	Bates, Cora	Buenastro, Amy
Adams, Doris T.	Baugh, Cindy	Buir, Randel A.
Adams, Monica	Bayles, Pamela	Burdette, David P.
Addis, Robert	Becker, Dan	Burnett, Pamele
Aden, Jr., Henry E.	Belie, Mosley B.	Burnham, April L.
Aiken, Christopher S.	Bell, Gregg L.	Burns, Corey S.
Aiken School District	Bell, Kathlene M.	Burns, Sandra S.
Constance K. Fevell	Ben, Alex U.	Busch, Vernon L.
Aimes, Carol	Benehof, William A.	Busser, Bert H.
Albrett, Fred	Bergstrom, David	Bustler, Ben
Allen, Becky	Berry, F. B.	Butter, Pam
Allen, Bobbie B.	Berry, Judy	Byrd, Earl L.
Allen, III, Quince	Berry, Marie S.	Calkey, John L.
Alvin, Stanley	Bishop, Sandra H.	Campbell, Hazel P.
Ameinan, Joy H.	Blackburn, Ernie M.	Campbell, Jim R.
Anderson, B. J.	Blake, Benett L.	Campbell, Sarah E.
Anderson, Robert	Bloom, Richard C.	Carroll, Carol W.
Anderson, T.	Boggs, R. W.	Carter, Helen T.
Atipp, Randy H.	Bolholz, Stacy	Carter, Lillie W.
Atkinson, Jr., John T.	Boyd, Jr., Norman	Cayne, Shelds
Augusta Telephone	Boyds, Earl L.	Chain, Regina O.
Sharon Martin	Brantley, Sed S.	Chamber of Commerce
Ayer, Dennis L.	Bresser, Sr., C. W.	Richard Lamar
Ayers, Hazel Leigh	Brewer, Joseph	Chapman, Michael
Bacon, Debi	Brimke, Harald P.	Chauwind, Richard
Bailey, Dwayne E.	Brinkley, Jamie	Chester, Dan
Bailey, John E.	Brock, Wallace T.	Childer, Wallie
Bailey, Wendy	Bronze, Deborah B.	Chriswell, Kim
Baker, Jenena P.	Brosbris, Willie R.	Citizens for Nuclear Technology
Bamberg, Edna C.	Brown, Gloria	Awareness
Banks, Jr., Wayne E.	Brown, Sylvia E.	Michael Britte
Barnes, Rachel K.	Bryant, Jr., Laivtan	Fred L. Davison
Barry, Carol S.	Buchanan, Brian P.	Illegible
Bater, Jacqueline C.	Buchholtz, Anthony J.	William H. Martin
Bates, Alfred	Buchwater, Donald S.	A. Mause

Table 1–8. Organization and Individual Commentors as Part of a Campaign (Continued)

Commentors	Page
Postcard Citing Savings From Consolidating All of DOE’s Plutonium Disposition Missions at the Savannah River Site (Continued)	
Citizens for Nuclear Technology Awareness (Continued)	
John W. Pavaglio	
Frank E. Wise	
Clark, Dalisa	
Clark, Dorothy	
Clark, Tammy M.	
Clifford, R. Priscilla	
Clothing, Ruthie L.	
Coach, Kim	
Cole, Judy	
Collins, Monica J.	
Collins, Mozella	
Collins, Sara	
Conway, Dick	
Cooper, Tanya	
Corly-Stone, Edie	
Cortledge, Sara	
Counts, Betty B.	
Crawford, Beatrice A.	
Crawford, Rene	
Cruz, Counne R.	
Curry, Lepone	
Curry, Wanda	
Dais, Freddie L.	
Darnell, Addie E.	
Davis, Rita	
Davis, Sean	
Denney, Bobby	
Dewey, Howard R.	
Dion, B. Ralph	
Domain, Carol	
Dominey, Patricia R.	
Donava, Neal	
Dowdy, J. W.	
Drefus, Chris	
Druig, A. W.	
DuBose, Lillie	
Dunbar, Carl A.	
Dunn, Elizabeth	
Ed, Melinda G.	
Edwards, II, Robert Allen	
Eggesman, H.	
Eichen, Mark	
Eigle, Ronald K.	
Esuri, Marl	
Fail, Shelly	
Fay, A.	
Felak, John M.	
Felder, Alesia D.	
Fell, Rick	
Ferrell, C. A.	
Ferrell, Ronnie F.	
Fields, Donald	
Fing, Bobby H.	
Flores, George R.	
Floyd, Joe	
Foger, Lorie O.	
Forest, Mary Jane	
Foster, Edda M.	
Foster, Stephen G.	
Foulks, James F.	
Franklin, Elizabeth	
Franklin, Tony E.	
Frazie, Pamela	
Freeman, Thomas R.	
Fritz, Jill	
Fuhner, Terry	
Fulghun, Wayne	
Fulmer, Glenda T.	
Futner, Betsy C.	
Gaffiney, Timothy	
Gaines, Amanda	
Gallon, John	
Gartrell, Dean D.	
Gay, H. R.	
Gay, Mark J.	
Gaylord, Cathy	
Gaylord, James F.	
Geay, Peter L.	
Geddes, Catherine	
Geldston, W. J.	
Gidson, Jesse	
Glover, M. B.	
Goff, Cyrus B.	
Goodwin, Lois	
Goodwin, Phefhi	
Goodwin, Sr., Haskell	
Gooker, Laura E.	
Grant, T. W.	
Graves, Authur J.	
Gray, Penny	
Graybeal, Michelle	
Graybill, W. R.	
Grayhill, Barbara	
Green, Daniel W.	
Green, Steven H.	
Green, William	
Greenaway, Paul R.	
Griffin, Denise	
Gromade, R.	
Grubbs, Richard	
Haggard, Rick	
Hall, Bill	
Hall, Julie C.	
Hall, Sondra A.	
Hallman, R. L.	
Harkless, Dixie	
Harris, M. A.	
Hart, D. C.	
Harter, F. M.	
Hasty, Donna M.	
Haust, Susan B.	
Hawkins, Cade E.	
Hawkins, Madeline	
Hawkins, Tony	
Heard, Tammy S.	
Hechles, Bob	
Heklek, Jonathan	
Henderson, Kenya	
Henderson, Patricia	
Henely, Sr., George A.	
Hentger, Regina H.	
Hess, Bert	
Hett, Dana H.	
Hetzel, Christine L.	

Table 1–8. Organization and Individual Commentors as Part of a Campaign (Continued)

Commentors	Page	
Postcard Citing Savings From Consolidating All of DOE’s Plutonium Disposition Missions at the Savannah River Site (Continued)		
Hicks, Brenda	Johnson, Earline	Luton, Merrie L.
Hicks, Rally	Johnson, Larry	Lynn, K. R.
Hicks, Susan	Johnson, Patrick	Lynn, Sharon
Hickson, Kimberly S.	Johnson, R. Charmaine	MacCrundy, Cheryl I.
Hickson, Lee T.	Jone, Albert B.	Maddux, E. Paul
Hightowen, Gregory L.	Jones, Debra A.	Malizia, Jennifer E.
Hightower, Willie	Jones, Kevin	Malloy, Sondra R.
Hightown, Barbara H.	Jones, Mary W.	Martin, David
Hill, Donald L.	Jorden, Michael	Martin, Delores
Hillary, Melba L.	Juger, U. S.	Martin, Michael
Holgate, Shirley G.	Keenan, Marie	Martin, Ruth
Holland, Dianne	Kelch, Brenda J.	Martinez, William P.
Holland, Mary R.	Key, Shelley	Mathews, James E.
Holland, Michael K.	Kiernan, John A.	Mathis, Karen J.
Holley, Deborah L.	Kiernan, Pamela S.	Mathis, Leah D.
Holliday, Kim	Kimbrell, Rebecca	Matthews, A. C.
Hollyfield, Ellison	Kingery, Andy	Mayor, Brenda
Holmes, Patricia A.	Kip, Susan M.	McCain, Mary
Holz, Charlotte D.	Kirkpatrick, Scott	McClair, Sharon
Hooper, Ruth H.	Kissice, Stephanie R.	McGee, Garrett
Hophers, Karen A.	Kopeck, Seathe	McKie, Vicki L.
Huff, Stephanie	Krist, Fred	McKinney, S. J.
Hughes, M. B.	Kropp, Charlie W.	Meadows, Vince
Hutto, Jr., Howard J.	Kruel, Richard E.	Meahling, Joyce
Illegible (27)	Lamb, Angela	Mechs, Terry L.
Iye, Sandy R.	Lamb, R. Marshall	Medlin, Ricky
Izlen, Kathy	Landum, Alexis M.	Medlock, Robert
Jackson, M.	Lariseey, David	Merriweather, Tonya F.
Jackson, Oscar	Leaphil, Kathryn	Miller, Kendall E.
Jaller, Mel	Lertz, David W.	Mizzell, Tammy L.
Jamison, William T.	Leutes, Theresa A.	MKR
Jee, Bauer K.	Lewis, Brian K.	Martha K. Register
Jeer, Aaron M.	Lewis, Joseph	Morris, Christie
Jeff, Jerad A.	Linyard, Pam	Morris, R. M.
Jenkins, Linda H.	Long, Anne	Moseley, Edith
Jerard, Mike	Long, Charles C.	Moser, Stephen
Jewell, Erin	Long, Franklin A.	Moth, Gary S.
John, Katherine L.	Long, Karin J.	Moton, Raymond
John, Reginald L.	Long, Sharma R.	Mryline, James D.
Johns, Roxanne	Lord, Teresa	Mullen, Carrie
Johnson, B.	Lows, E. Roger	Munwell, A. H.
Johnson, Brolura	Lupiznek, Kelley	Musolf, Matthew M.

Table 1–8. Organization and Individual Commentors as Part of a Campaign (Continued)

Commentors	Page
Postcard Citing Savings From Consolidating All of DOE’s Plutonium Disposition Missions at the Savannah River Site (Continued)	
Mye, H. Ashly	Ramsey, Thomas A.
Nguyen, J.	Randall, Sallie F.
Nier, Kristen L.	Reynolds, Amanda C.
Norman, Alixe W.	Reynolds, Linde B.
Norris, Jay	Rhodes, Heather R.
Novak, Raymond N.	Rich, David H.
Odon, Klayhena K.	Richards, Donnie
Oglresly, Dennis	Rizzenhut, Frank
Olson, John	Robert, Julian Wayne
Owen, III, Manson T.	Robinson, Tiffany
Owens, Chris	Roddy, Ashley
Owens, Michael K.	Rodgers, Jeremy
Padgett, Christal	Rogers, Elaine
Palmetto Federal Savings Employee Jacqueline P. Ramsey	Rogers, Paula
Parker, Charles L.	Rogers, Thomas E.
Parker, William Andrew	Rose, David B.
Parks, Arthur	Ross, Anne B.
Patterson, Maurice	Ryder, Alan
Pearson, Jennifer	Ryder, Bruce
Pearson, Mary	Ryder, Mavis
Pension, Maude K.	Ryder, Wanda
Perella, Chuck R.	Ryloff, Pete
Perico, Shannon H.	Sally, Tyrone G.
Peter, R. S.	Salter, Cheryl J.
Peterson, Fred	Sanders, Nana D.
Phelip, Donald	Sanders, Richard D.
Phelps, Robert E.	Saul, Stephanie
Pickett, Denise L.	Savannah River Ecology Lab, University of Georgia
Pierce, Willie	Donald R. Mover
Piston, Amanda	Scott, Elizabeth
Plexico, J. Sam	Scott, Johnny G.
Plouffer, Bonnie	Scott, Tamieke
Pnell, Robert	Segafoes, Ronald E.
Powell, Susan	Segler, Peter
Preriucci, M. R.	Shane, Jerome H.
Prescott, Phillip N.	Sharpe, Samantha Kay
Pressley, Francener	Simmons, Billy
Price, Jennine	Sims, Jamie B.
Priester, Charlene	Sipes, Colette
Pritz, Shirley F.	Sites, Randy
Prothers, Brandon	Skinner, Donald
	Slone, Willie
	Smalls, Shakim
	Smith, A. J.
	Smith, B. R.
	Smith, E.
	Smith, Gisela
	Smith, Keshi
	Smith, Lora
	Smith, Mary A.
	Smith, Peggy
	Smith, S.
	Snuter, Constance F.
	Soper, Robert
	Spam, T. R.
	Spiney, Gwen
	Stage, Shirley D.
	Stevenson, Ernestine
	Steward, James M.
	Stewart, J. W.
	Stewart, Pamela
	Stewart, Virginia W.
	Sullivan, Kathy L.
	Sullivan, Lane A.
	Sullivan, Linda
	Swancey, Melissa
	Swing, Eric L.
	Tarrart, James
	Taubinger, Richard
	Taylor, Cindy
	Taylor, Clark W.
	Terenice, Charles E.
	Terry, James
	Teryone, Pam
	Tesenor, Nelinda T.
	Thomas, Charles
	Thomas, James
	Thomas, P. Shane
	Thompson, Derek
	Thompson, Lillian
	Thompson, William R.
	Thurston, David R.
	Tomlin, Laura

Table 1–8. Organization and Individual Commentors as Part of a Campaign (Continued)

Commentors		Page
Postcard Citing Savings From Consolidating All of DOE’s Plutonium Disposition Missions at the Savannah River Site (Continued)		
Tonce, Michelle	Westinghouse Savannah River Company	Williamson, Daisy G.
Turner, Annie	George E. Bellemy, Jr.	Williamson, Shirley
Tutt, Ida B.	Denise G. Blackwell	Willis, Marlane
Tyler, Linda A.	Gayle S. Bumgarner	Wilson, Marrion C.
Underwood, L. R.	Westover, Betsy L.	Wimnee, J. F.
Usey, F. Michelle	Westover, Justin M.	Wise, Robert A.
Valentine, Lisa	White, Larry	Wolfgangott, M. Lee
Valeti, David T.	Wie, Bobbie J.	Wood, Carol
Vauner, Denny	Wilburn, Tiffany	Wood, Thomas
Veal, Joan Renvo	Wiley, Pat	Woodward, Chad
Voegtlen, JoAnne M.	Williams, April	Woodward, Jr., James E.
Voychak, Deborah	Williams, Brad	Wooley, Charlotte J. Deane
Wade, Jamiel K.	Williams, Clifford	Woodward, Lisa D.
Wader, Kim M.	Williams, Darcy	Wright, Colleen L.
Waters, Amy	Williams, Delinda L.	Wyatt, Roger
Weeks, Clinton M.	Williams, Jeffrey	Young, Barry C.
Welch, Dennis F.	Williams, Robin	Young, Herbert S.
Wenall, Paul	Williams, Tonia	Zieliski, Walter
Wertz, Tim	Williams, W.	Zimmerman, Leo
West, Joe E.	Williams, Jr., Clemon	
Postcard Citing Cost Savings and Support for Consolidating DOE’s Plutonium Disposition Missions at the Savannah River Site 3–1373		
Aiken Chamber of Commerce	Keisler, H. E.	Simmons, Sharon
Cindy Bolton	Kight, Raquel	Tronier, Patty
Bean, R.W.	Lockridge, F.	Trowel, Natasha S.
Bishopp, Earle C.	Mance, Kurtina	Tyler, Swanzetta
Bripen, Christopher	Moody, Michelle	Warner, Jean L.
Drester, Charmaine L.	Park, Kaley	Witter, Oleen R.
Ethedge, A. Stewart	Peters, Bonnie	Young, Nancy
Illegible (2)	Ridgeway, Hazel S.	
Justice, Jennifer	Sillian, Katrice	
Postcard Expressing Opposition to Plutonium Processing in the Texas Panhandle and Converting Military Plutonium for Use in Mixed Oxide Fuel 3–1375		
Abbott, Kathleen	Atkerson, Ann	Barfield, Ellen
Abell, Jane	Atkerson, Jerry B.	Beardall, William
Anderson, L. Marian	Bailey, Susan	Bell, James
Anonymous (3)	Ball, Ysleta	Bell, Mary Lynn
Artho, Edward	Bandy, Bill	Berg, Joe David
Artho, Virginia	Bandy, Mary	Berg, Ruth Ann
	Banks, Arnold	Berry, Rick

Table 1–8. Organization and Individual Commentors as Part of a Campaign (Continued)

Commentors	Page	
Postcard Expressing Opposition to Plutonium Processing in the Texas Panhandle and Converting Military Plutonium for Use in Mixed Oxide Fuel (Continued)		
Black, Carla	Dolley, John	Hollingsworth, Dale
Blankenship, Sidney	Doyle, Chris	Hollingsworth, Jean
Bonner, Patrick	Doyle, John	Hubbard, James
Boone, Ric	Ducey, Maria	Hummert, Victor
Brackman, Selma	Duderhoeffler, Marilyn	Illegible (12)
Brewer, Bernice	Duderhoeffler, Mike	International Action Center
Brewer, Farris L.	Dunbin, Betty	Anonymous
Brister, Bob	Duran, Geraldine	Keevan, Gordon
Bunten, Erline	Dyer, Bobbe	Keevan, Heath
Bunting, Dorelen	Earl, Lewis H.	Kellam, Shelley
Bush, Jim	Edelson, Elihu	Kemper, William A. and Marcia B.
Bush, Michele	Egbert, Lawrence	King, Carl F.
Caldwell, Harrison and Addie	Elill, W.C.	Kleugensmith, Mary
Campbell, G. G.	Elsik, M.L.	Kleushem, Tonya
Carrnona, Connie	Everett, Mike	Kleuskens, Carl
Cathern, Bonnie M.	Everett, Reyna	Kleuskens, Helen
Ceuale, Ron M.	FDTN MI CASA International	Kluegensmith, William
Christman, Rebecca M.	Manuel Porras	Korwek, Gina
Citizens Alert, M. Lee Davy	Juana M. Rojas	Kroeger, Janet
Clark, Penni E.	Edgard R. Tolentino	Kroeger, Rollie
Clark, Robert A.	Fellowship of Reconciliation	Lewis, Marvin
Clark, Willis N.	Lee Loe	Lhueider, Jawba J.
Clopton, Jim	Finnerty, Anne	Lifshutz, Yvonne S.
Cole, Leslie	Floro, Martha	Lihs, Harriet A.
Cominos, Nicholas H.	Force, Ronald C.	Lippmann, Otto
Cooney, Don and Peggy	Fuller, Jr., H. S.	Locke, J.
Coots, Lou	Garcia, Bennie R.	Loe, Claire
Cox, Jean H.	Garcia, Danna	Lott, Linda
Crawford, Gus and Inez	Golding, Bert	Lott, Marshall
Cummins, Irene	Gramstorff, Jeanne	Lowerr, Richard
Daniel, Stanley M.	Graves, Harold C.	Malduf, Melody
Davis, Lloyd J.	Graves, Kathryn J.	Malech, Christina
Dawson, Ed	Hajeh, Linda	Marsh, Wendy and Stanley
Dawson, Norma C.	Hampton, Kaye	Martin, Ardis
Dawson, Jr., R. B.	Hardt, Brenda	Martindale, Jim
DeLong, Mary and Richard	Harris, Richard S.	Martindale, Julie
Detten, Bernice	Hatfield, Bobby	Maryknoll Fathers & Brothers
Detten, Danny	Hedgecoler, S.	Anonymous
Detten, Tonya D.	Helms, Pat G.	Mathern-Jacobson, Reba
Detton, Evelyn	Hoffel, P. J.	Mathern-Jacobson, Scott
Dixon, Billie M.	Hoffman, Kirby	Matthews, Craig
Dixon, David W.	Hoffman, Rosemarie	McCathern, Gerald

Table 1–8. Organization and Individual Commentors as Part of a Campaign (Continued)

Commentors	Page
Postcard Expressing Opposition to Plutonium Processing in the Texas Panhandle and Converting Military Plutonium for Use in Mixed Oxide Fuel (Continued)	
McDaniel, Rita	Phillyn, Thomas J.
McKinney, Ethel May	Plubar, Jennifer
McManus, Philip	Podson, Ted
Meder, Jodi	Porter, Dana O.
Melsha, Robert	Porter, Penelope
Micou, Cassandra	Raizen, Ben
Mier, Joe	Randall-Cash, George
Miller, Dion O.	Ratliff, Gail
Miller, Genevieve O.	Ratliff, George
Miller, Virginia M.	Recycled Country Sunshine
Minatra, Sandra	Penni E. Clark
Miner, Robin	Rekdal, Sheila
Mohr, Nick and Nancy	Ricketts, Cathy
Monnot, Connie	Ricketts, Doug
Morrisette, Elizabeth	Ridgley, Patricia
Morrisette, Shirlyn B.	Rireley, Mary B.
Mote, Joe Wood and Mildred	Rivers, Henry V.
Moytabin, Ann Grace	Robbin, Dan
Murphrey, David	Robbins, Paul
Murphy, J.	Robertson, Pauline D.
Narzak, Sargita	Robertson, R. L.
Neusch, Gayle	Rogers, Erin
Neusch, Kevin	Rokobarb, Arline
Newburg, Madonna E.	Rossignol, Steve
Newell, Virginia M.	Runkle, A.
Nicholson, Mary J.	Schlegel, Norba
Norris, Clarra A.	Schlegel, Norbert
O'Brien, Jay	SD Peace Justice Center
Office of the Americas	Jeanne Koster
Blasé Bonpane	Seall, Nancy Y.
Oliver, Gary	Seewald, Katherine
Oppermann, Bobbie J.	Seewald, William Hughes
Osborne, James W.	Shadid, Patrice
Osborne, Jeri R.	Shennum, Mary
Osborne, Mike	Shutt, Jed C.
Oser, Wendy	Shutt, Susan L.
Owen, Maryvida G.	Sierra Club
Owen, Weslie B.	Silas Townsend
Palson, Theodore E.	Singleton, Betsy
Peace Farm	Sisters, Franciscan
Anonymous	Smith, Doris
Phillips, Karinia	Smith, Marshall
	Smith, Michelle M.
	Smith, Phillip
	Solomon, Henry L.
	Solomon, Jo
	Sould, Randy
	Southurd, Edwin R.
	Spear, Gale
	Spikes-Volz, Fostrene
	Sprunger-Froese, Peter
	STAND
	Teresa McFaul
	Stansbury, Linda
	Stein, Janie
	Stein, Jerry
	Stein, Paul
	Stonstuny, Fred
	Stoy, Mary M.
	Strafuss, Carl
	Strafuss, Joan
	Swallow, Shirley
	Swann, Joe
	Swann, Lila
	Syofd, J.
	Syofd, V.
	Taebel, Kay
	Taylor, Donna
	Thomas, Greg
	Thomas, Kathy
	Thomas Merton Center
	Molly Rush
	Thompson, Donald L.
	Thompson, Sally Alice
	Todds, John
	Torczon, Mary Jo
	Townsend, Silas
	Treichel, Judy
	Treichel, Zean
	Trigg, Elizabeth M.
	Ubelocker, Judy
	Uier, Kille Louar
	Underwood, Oiiran Chung
	Uphoff, I. A.

Table 1–8. Organization and Individual Commentors as Part of a Campaign (Continued)

Commentors	Page	
Postcard Expressing Opposition to Plutonium Processing in the Texas Panhandle and Converting Military Plutonium for Use in Mixed Oxide Fuel (Continued)		
Vaughn, Joanna and Larry	Wendel, Jeannine P.	Winner, Fred M.
Vureih, Jennifer O.	Westerly, Suzanne	Womble, Benny
Wadley, Robert Burns	White, Betty E.	Womble, Joan
Walter, P.	White, Jack W.	Woodriz, Ruthy
Wancura, Marianne S.	Whitfield-Bell, Elmerine Allen	Young, Terri
Water Information Network,	Wiedebush, Dianne	Younger, Cole
Anonymous	Wiedebush, Jeri	Zack, W. Meron
Lila Sust	Williams, Jim I. and Fran	Zoltan, Paul S.
Weber, Roserita	Wilson, Nancy	Zywicki, Thaddeus S.
Wendel, David	Winner, Frankie R.	
Postcard Expressing Support for DOE’s Plutonium Disposition Missions at the Savannah River Site and View That Excess Plutonium Can Be Converted into Mixed Oxide Fuel to Help Meet U.S. Electrical Energy Needs.....		3–1377
A., Tony	Arego, Earlene	Bates, Camilla
Adams, D. G.	Arlaugh, Shirley	Bates, Jamie
Adams, Dennis	Arleaush, Alisa	Bauer, R. D.
Adams, Kelly N.	Asbestos Worker Union #92	Baxey, Jacqueline
Adams, Monique S.	Raymond E. Story	Baxter, Claude
Adams, Sabrina R.	Ashe, Geraldine B.	Bayer, Cassandra
Adams, Tempie L.	Atkin, Dion L.	Baynard, Norma
Aifej, L. Lefand	Atkins, Saminic	Bean, Lemar L.
Aikron, Jason T.	Atkinson, Linda E.	Beans, Sharon
Albrite, Oscar	Atkinson, Mary H.	Beard, Kut U.
Ale, Todd	Auderce, John B.	Bearden, Kim
Allardice, Judith A.	Austiz, Brian	Beasley, Nell
Alling, Jamie	Ayer, Richard	Beatty, Jr., James N.
Alt, S. D.	Bagwell, Martha	Beeland, Kihe
Anderson, Adam	Bailey, Pame	Begnill, Dale L.
Anderson, Muyrille	Bailey, Sara	Beinberg, Coleen F.
Anderson, Rod	Baker, Anthony T.	Belcher, P.
Anderson, Sue	Baker, Naomi A.	Bell, Allan
Angelos, Christine C.	Ballard, William	Bell, B.
Angelos, J. G.	Balodi, Jean	Bell, Brenda J.
Anonymous (4)	Banke, Jacquel L.	Bell, Brenda T.
Anrt, Timothie E.	Bantley, Kathy	Bell, Brian K.
Ansley, Leslie	Bargera, Allison	Bell, Robin
Antts, Joe S.	Bargerson, Diane	Bell, Sherry
Aplez, M.	Barnett, Cassandra R.	Beller, Ben H.
Arbaugh, Donna	Barry, Jim	Belon, Justin
Arbaugh, Jimmy	Barton, Rosalyn W.	Belton, Elaine W.
Ardis, Kelly	Baston, Wanda	Benet, John T.

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Benjamin, Karen	Bowers, John W.
Bennett, Lori	Boyd, Ann
Benze, Harold L.	Boyd, Carl D.
Bern, E.	Boyd, Dante
Berry, Web	Boyd, Joanne
Berser, Robert T.	Boyd, Roy
Bert, Antonette	Boykin, Danette
Bert, Paul Q.	Boyles, Myranda
Bessong, Jr., W. T.	Boza, Josh
Betts, David	Brackett, Virginia L.
Beut, Freddie S.	Bradley, Len
Billings, T.	Brady, Misty M.
Birdseye, James H.	Braid, Pam
Birdseye, Scott G.	Braun, Heidi
Bishop, Grace	Bredolson, G. S.
Bishop, Nancy	Brice, Laura S.
Bishop, Susan	Brichof, Jerald A.
Black, Beth	Britt, Russell
Black, Gregory J.	Britt, Jr., James H.
Black, Lynette M.	Brittany, Jr., T. Lee
Blackman, Jenny	Brooks, Marie
Blackmon, Tina M.	Brott, M. L.
Blanchard, Betty T.	Brown, Angela M.
Blanchard, Elizabeth	Brown, Ariel
Bland, Evelyn B.	Brown, Dianne S.
Blessings, Don	Brown, Emory
Bligreldon, Glenda C.	Brown, Gay
Blyth, Cory	Brown, Joe
Boason, Cliff	Brown, Kelly
Bodie, Laurie	Brown, Kerealsa C.
Bodie, Paige F.	Brown, Linda
Boerstler, Kris	Brown, Nicole
Boggs, Gerline	Brown, R. B.
Bolan, Denise	Brown, Richard W.
Bolangia, Erika R.	Brown, S.
Bonnell, Bonita Y.	Brown, Shirle R.
Boseman, Fran	Brown, Steven M.
Bossing, A. I. C	Brown, Thomas B.
Botter, J. C.	Brumbolow, James L.
Bourne, Ruth	Bryan, Ronnie
Bowcutt, Tamera A.	Bryant, G. C.
	Bryant, Heather
	Buchant, J. E.
	Buck, Lemad
	Buck, Jr., Leonard
	Budentin, L. A.
	Burch, Barry
	Burdette, Clayton
	Burk, Elliott
	Burton, Debra
	Busbee, Delmas
	Busbee, Pat
	Busch, Christian J.
	Busch, David A.
	Busch, Jr., Finace
	Bush, Denise
	Bussell, Chris
	Buts, Lori A.
	Byer, Bill
	Cadiere, Robin L.
	Calhaun, Angela
	Call, Thomas Ray
	Calloway, Judy
	Camp, David
	Campbell, Mary
	Campbell, Pat
	Caneck, Harry E.
	Car, Christa
	Carleress, Edwin Geae
	Carr, Art M.
	Carter, Patricia A.
	Carthedge, Troy
	Caulegh, E.
	Cauley, Genia
	Caverness, Mamie J.
	Ceiuris, Delauri
	Cender, A. B.
	Chabous, Jr., Walter
	Chandler, Lou
	Chandler, Thelma
	Chang, Paul
	Chaplin, Casey

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Chastain, Jr., Marshal	Cohen, Sharon V.
Chattin, Janice	Cole, Charles W.
Cheatham, Annette	Coleman, Darice
Cherry, Lacey	Coleman, Kimberly
Chewy, Shane	Collins, Carol B.
Chin, C. K.	Collins, Pat A.
Chin, Susan	Conart, Erin O.
Chrisco, Hugh E.	Conlon, Bill
Citizens for Nuclear Technology Awareness	Connely, M. E.
F. G. Aoulso	Conner, Jr., George
Lawrence Breder Jr.	Cook, Carl M.
J. G. Call	Cook, Cheryl
Susan S. Calley	Cook, Daisy M.
R. A. Caulan	Cook, Dora S.
F. B. Davis	Cox, Sam
Paul Grefenstette	Craig, Elizabeth
Michael S. Guild	Craig, Jonathon J.
Illegible	Craig, Michelle L.
Laura U. Jordan	Craig, Tammy H.
Teresa Mikie	Crain, V. G.
Pamela P. Plunkett	Crawford, Cindy
Keith Wood	Crocker, Kelly
Susan Wood	Crude, Patricia
Clair, Andrew	Croetye, Lynda O.
Clarck, Laurie	Cromer, Patsey J.
Clark, Adria Leal	Cromer, Jr., Guy L.
Clark, Brad	Crook, Becky
Clark, Jerry	Crowell, Linda
Clark, Preston	Cruiz, Ramon
Clay, Caroline B.	CSRA, B. C. Paly
Clayflower, Sr., T. C.	Cude, Bonnie W.
Clegg, Trey	Culin, Larry
Clement, Michael A.	Culler, Terry
Cleveland, Rocky	Cullugyn, K. C.
Cliett, Rosemarie	Cullum, T. B.
Cline, Teresa C.	Cummings, Gary A.
Cobb, Katrina N.	Cunningham, Alfon I.
Coburn, C. David	Cunningham, Jeff T.
Coburn, Cindy	Cunningham, Shawna
Cockrell, Jenny	Curry, Bettina
Coen, Jr., James W.	Cyle, J.
Cohen, Byron D.	Cyreff, Pete V.
	Dabber, Penny
	Dahlheimer, Connie
	Dailey, Jeffery O.
	Danekso, Terisa
	Daniel, David F.
	Daniels, Denise
	Daniels, Ruth
	Danner, Becky
	Dardner, Jr., James W.
	DaShickey, Kamal
	Data, Jr., Robert A.
	Dauben, Rovert J.
	David, Audrey
	David, Kurt
	Davidson, Jon
	Davis, Craig
	Davis, Harold W.
	Davis, Jennifer
	Davis, Karen
	Day, Daniel J.
	Deal, Dewayne
	Deal, Myrtle
	Deal, Willie
	Derming, Richard
	Derr, Pam
	Diair, Ay
	Dickerson, Todd
	Digley, Laura
	Dixon, Amanda
	Dixon, Barbara A.
	Dixon, Ginger
	Dixon, Holli
	Dixon, Janet
	Dixon, Jillian
	Dixon, Joseph
	Dixon, Michael
	Dixon, Richard
	Dixon, Tanja
	Dome, Shannon L.
	Donahue, Jeannie

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Doolittle, Debra	Evans, Betty	Frelin, Norma J.
Doolittle, William	Faas, Maiya	Frey, Jr., William A.
Dorfin, Howard L.	Falk, Doris J.	Frost, Kenneth
Downs, Gregory S.	Falking, Robert	Fryer, Larry A.
Drayer, Brenda	Falls, Linda A.	Fuller, Ricky
Drayer, William	Fant, Collean	Funk, Tamara
Drummy, Jacqueline	Farris, Michelle T.	Furtick, Stacy J.
DuBoise, Glenn	Fedrick, John V.	Gaelibo, George
Dudley, Jay L.	Feelgham, Virginia	Gaines, Dominique D.
Dukes, James E.	Felak, Frances	Gallwen, James
Dukes, Ryan	Felak, Thomas	Galten, Angela
Dunbar, Christopher	Felder, Arthur	Gantt, Carlo
Dunbar, Nicole	Felds, Kellie	Gardner, Christy
Duncan, Ellen F.	Fenning, Robert T.	Garman, Amanda
Dundley, Roger	Ferguson, Randall	Garnelt, Joe A.
Duquette, Darald S.	Ferguson, Lynn	Garrett, Patrick
Durban, Harriett	Fernandez, Rita S.	Gates, Kristina
Dye, Mike	Fethringer, Joel	Gay, Susan
Dyers, Christopher D.	Fields, Marcus	Geason, Paul T.
Dynarshi, C. R.	Fields, Michelle	Geblion, David S.
Dzaugis, M. F.	Finley, A. Kathleen	Gede, Sony
E & T, Michael Cooler	Fisk, Terrie	Geit, Louise
Eaves, Debby	Flanagan, Dayna	Gelder, Bethany
Eaves, Terrel	Fleetwood, Andrew S.	Gelder, Rachel
Edwards, Barry O.	Fleetwood, Brenda A.	General Physics Corporation
Edwards, Chadwick	Floherz, Shelley	Richard D. Kelley
Edwards, Faye	Floyd, Edwards E.	Genster, Gail
Edwards, Suzette R.	Floyd, Korinya L.	Georgia, Isabel
Eichstedt, Susan C.	Flythe, Linda J.	Geotz, John
Ein, Matt K.	Ford, Willie	Geralaime, Andrew J.
Eines, Kimberly	Foreman, Shirley	Gette, Charles G.
Ekleeg, L.	Forum, T.	Gewin, Franklin L.
Eldridge, Carol	Foster, Lois J.	Gibson, Jacqueline
Eldridge, Sarah	Foster, Melinda	Gibson, Jerome
Ellenberg, Sonia E.	Foster, William C.	Gilbert, D. M.
Ellis, Joe D.	Foust, Tami M.	Glenn, Patricia
Ellis, Julia	Franklin, D. M.	Glover, Barry L.
Enleson, Kathi	Frasure, Ruby N.	Glover, Randy
Esbriard, Susan	Frazer, Cora R.	Goben, Ramona
Eubale, Joe	Freeman, Jamie T.	Godluir, Danny
Eubans, M.	Freeman, Shalanda	Golden, Bo

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Gonzales, Maria S.	Hamson, Jamie
Gonzalez, Mario G.	Hardin, Jamie
Goodman, Charlene	Hardin, Monica
Goodwin, Betty	Hardin, Yolanda
Goodwin, Daryl R.	Harmon, Mariam
Goodwin, R. C.	Harper, David T.
Goodwin, Stan	Harper, Jewille P.
Gorden, Kenneth	Harris, Chris
Gordon, Bob	Harris, John
Gordon, Don	Harris, Kyle D.
Gossard, Terry	Harris, Marlene D.
Graham, John	Harris, Melrose
Grailing, James L.	Harrison, Amy
Grant, Hazel Y.	Harrison, Brandi
Green, Frances	Hart, Felecia
Green, Levi	Hart, Fred
Green, Michelle	Hartless, Susan D.
Green, S.	Harvey, Sonya L.
Grekorvic, Vivian	Harwel, Charles
Grier, Jeremy	Hathaway, Amy C.
Griffin, Carlene	Hathcex, Jennifer
Griffin, Jo Erin	Hathcox, Crystal
Griffin, Tonya	Hawthorne, R.
Groomes, Brenda	Haynie, Lisa
Growell, Whitney	Hearn, Jamie H.
Gunter, II, Chester G.	Heath, Jerry
Hale, Kristie S.	Heath, Shawn
Halebard, Diane	Heats, L.
Hall, Daisey M.	Hedges, J. Michelle
Hall, F. Lydia	Helms, Eric M.
Hall, K.	Henderson, Lisa
Hall, Lynn I.	Henderson, Robert L.
Hall, Sondra A.	Hendirx, W. R.
Hall, Yvonne	Hendrick, Kevin E.
Hallimor, Richard	Henzik, Judith A.
Halling, Jr., Shawn M.	Herren, Franklin
Hamilton, Catherine S.	Herrison, Summer
Hamilton, Tyrone	Herron, Delores
Hammond, Ruleia B.	Herron, Rhonda
Hampton, Kelvin	Hess, Michael
Hamrock, Debbie	Hess, Norman J.
	Hevel, Catherine M.
	Hewel, Stephen D.
	Hewlett, Robert D.
	Hezlett, Susanne
	Hiermer, Ron
	Hilhite, Rachel A.
	Hillis, Jean
	Hitts, Mike T.
	Hiwuh, Datcha K.
	Hixson, Joshua
	Hodges, Jennifer
	Hodges, Margaret M.
	Hoel, Doris D.
	Hoetzaschute, E. W.
	Hogan, Jason
	Hogston, Debra J.
	Hogston, Robbye
	Holcomb, George B.
	Holland, Artie
	Holles, Nadijah
	Holley, Debbie
	Hollowell, Todd
	Holmes, Christopher M.
	Home, Sherry
	Hood, Dana
	Horner, Harry P.
	Horton, Nancy L.
	Hotrizer, Anthony W.
	House, Linda
	Howard, R.
	Howard, II, M.
	Howell, Robert L.
	Hower, Donna
	Hudson, Billy
	Hudson, Ray S.
	Huelos, Ian M.
	Huggins, Artis S.
	Hunnett, Stanley
	Hurt, Jennifer L.
	Husand, Jason
	Hustead, Jeffery

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Postcard Expressing Support for DOE’s Plutonium Disposition Missions at the Savannah River Site and View That Excess Plutonium Can Be Converted into Mixed Oxide Fuel to Help Meet U.S. Electrical Energy Needs (Continued)	
Hutchins, Laramie A.	Johnson, Shannon
Hutke, Leslie S.	Johnson, Stephen A.
Hyers, Franklin	Jold, Weby Dillard
Iethan, Kathleen	Jolnes, Frank W.
Illegible (77)	Jones, Anna
Intel, Lane	Jones, Anne B.
IUOE	Jones, Cathie
Michael M. Gallie	Jones, Cheri
Irwin, B. J.	Jones, Clifford E.
Itome, T. J.	Jones, Crystal C.
IUOE, Local 470	Jones, Erica
Shelia Morris	Jones, Ernie M.
Lane D. Parker	Jones, James H.
Eddy L. Smith	Jones, Jay
Jackson, Celia	Jones, Michelle Y.
Jackson, Dreue	Jones, Willie L.
Jackson, H. L.	Jordan, Aletha
Jackson, Kitie	Jorden, Kari
Jackson, Lesa M.	Jowers, Deborah M.
Jackson, Maretta	Jurmnes, Joseph
Jackson, Roger	Kanarapatakis, L. K.
Jackson, Sheila	Kaney, Katherine
Jackson, Terry	Karananedge, Mobe
Jaier, David A.	Kay, D. A.
James, Rhonda	Kearse, Jim
Jefferson, Sheldon	Keller, R.
Jenkins, Allison	Kelley, Norma
Jennings, Melody	Kellum, Cindy
Jennings, Sylvia	Kelly, Joann
Jennison, Jr., A. E.	Kelly, Michelle D.
Jernigan, Carolyn	Kelly, Jr., Alfred
Jessi, Jr., Oscar	Kenbolk, Lelian
Jimery, Juan	Kenison, David S.
Johnson, Anna	Key, C. A.
Johnson, Bridgette M.	Key, Willie
Johnson, Dustin	Kieren, Jason A.
Johnson, Jim	Kimpel, Joseph
Johnson, Keith	King, Donna
Johnson, Linda D.	King, Sam J.
Johnson, Nicole	Kinsey, Kristine C.
Johnson, Pat	Kirk, Emery
Johnson, Sarah	Kirkendohl, Sam J.
	Kirley, Cathy
	Kitchings, Vernetta J.
	Knopf, Jeremy
	Knox, Daris V.
	Krist, G.
	Kroft, David
	Labute, Allen
	LaFavre, III, Al D.
	Lamar, J.
	Lamar, Sharma
	Lambert, Ardeen
	Lamie, Leisa
	Lance, K.
	Land, Jr., William S.
	Landers, Mary
	Langford, Patricia
	Lanz, Laura
	Larescz, Connie
	Lark, Laverne
	Laswell, Candra Dawn
	Lathimer, H.
	Laurson, Jimmie
	Lawrence, Debra A.
	Lawrence, Gloria M.
	Lawrence, Vernon
	Lawson, James
	Lay, Catherine
	Lazarky, Frank
	Lee, Donna A.
	Leonard, Michael J.
	Leonard, Nelma S.
	Levens, Terry
	Lever, Ray
	Leverett, Monica
	Levey, Michael
	Lewis, Chris
	Lewis, Julie
	Lewis, Makeisha
	Lewis, Robert M.
	Lewis, S. B.

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Lewisinky, Carey	May, B.
Lipen, Pat	McAlhamy, Sachi W.
Lipton, Aaron	McBitler, William
Lipton, Donna J.	McBride, Joey
Litesz, J. M.	McBride, Kurt
LIUNA, Warren Hills, Sr.	McCall, Homer C.
Livingston, Chris	McCall, Steven
Lloyd, Dorothy O.	McCaukey, Maryln L.
Lloyd, Glenda	McClendon, Dhashida
Lloyd, Sr., W.	McClesheg, Carol P.
Lnop, Brian	McConnell, Avery
Local 1283, Wayne Persinger	McCoy, Mary
Loudria, Jr., Frankie	McDahee, Carlo
Lovett, Chris	McDanell, William R.
Loy, Deanne H.	McDaniel, Tanya
Lu, Gregory	McDonald, Teresa K.
Lubell, Art	McDuffie, Sterling
Ludler, Diane	MCG, Judith Fay
Luxmore, Lori	McGlue, Ashley
Lyduand, E. A.	McGregor, Timothy
Lynn, Judy	McIvers, Kay
MacCrumin, Archie N.	McKey, Loretta V.
Mack, Lloyd	McLaren, Donny
Maguire, Dora Jane	McLaughlin, Kathryn
Mahoney, Palmeria	McNeal, Crystal
Maiday, Michelle S.	Mead, R. E.
Maier, James B.	Mealing, Tony J.
Majer, Tyler L.	Meekes, Phil
Makoho, Linda	Meiler, Mark J.
Mamae, Eli T.	Melissa
Mangeldorf, J.	Melvin, Linda A.
Manuel, Pat	Meriweather, Kimberly C.
Marine, Gail H.	Merriweather, Delores
Marris, Mary J.	Merse, Cleveland
Martin, Jean R.	Messich, Linda
Martiniz, Frank	Meyer, Perry L.
Mathews, B. H.	Michifeldi, Pete
Mathis, Melissa K.	Mider, June M.
Matson, Paula	Midland Valley Chambers
Mauft, Buck	Datory Waymen
Mausur, E. J.	Milledge, Bettie K.
	Miller, Audrey R.
	Miller, Brian
	Miller, Mamie
	Miller, Shirley T.
	Milton, K.
	Mins, Roxie
	Mitchell, Donna W.
	Mitter, Adam R.
	Mitts, Antonia
	Mobly, George R.
	Mooney, Oliver W.
	Mollo, Victoria
	Momentiller, Kevin
	Montgomery, George W.
	Moody, Alonzo
	Moody, Barbara B.
	Moody, William
	Moon, Connie
	Moor, Ralph L.
	Moore, Andrea
	Moore, James F.
	Moore, Jason
	Moore, Jessica J.
	Moore, Leah
	Moore, Margaret
	Moore, Renia R.
	Morales, Jr., Alfonso
	Morals, Shannes
	Moran, Kelly
	Morgan, Louis
	Morgan, Pammie J.
	Morgan, William N.
	Morris, Claudia D.
	Morris, H. A.
	Morris, H. J.
	Morris, Hal W.
	Morris, Leslie
	Morris, Robert G.
	Mosley, John L.
	Mosley, W. L.
	Moss, Amanda

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Moss, Beverly G.	J. Kent Sullivan
Moster, A. B.	Nue, Michelle
Moyer, Anne	O'Bannen, Donna
Muehlar, W.	Odo, Cyndy
Muhlean, Sr., Raymond B.	Odom, Beverly
Mulleirs, Ernie W.	Ogeth, Walter
Mullikin, Sandy	Ohioka, Delores
Mullis, Debra S.	Oliphane, Willie R.
Murff, W. C.	Oliver, Jeanette
Mutarielli, Mary	Oliver, Joeh W.
Muza, Tracie	Olsen, Rebecca E.
Myer, Barry	Olum, Moses
Myers, Richard S.	Oring, Jason
Nallen, Roger M.	Orlando, Robert
Naz, Diane M.	Ortega, Carmila
Neal, Margie	Ostunds, Gerald W.
Nealious, Joseph	Owen, Frederick B.
Neely, Pamela	Owen, Michael
Neil, Peggy	Owens, Donald W.
Nelson, Frank E.	Owens, Sabrina
Nelson, Guretu B.	Owens, Terry
Nelson, Michael A.	Pafel, Dirk D.
Neuken, Vincent	Pagett, R. S.
Newkirl, Charlene	Parcelli, Peter V.
Newlhirt, Jessica	Parker, Deloris
Newman, Monica	Parker, Kristie
Newman, Vicky	Parry, George
Newsome, C. N.	Partain, Bobbie
Newsome, Deborah	Patrick, Jacki
Nichelson, Rosa	Patterson, Marion
Nichols, Tiffany E.	Paure, Lisa
Nicholson, Angela	Payne, W. L.
Nickols, Charles P.	Peak, Cheryl W.
Niell, Mieley R.	Pearson, Kari M.
Nix, Debbie B.	Pearson, Kimberly
Nixon, David W.	Peebeet, Connie
Nob, Burke	Peek, Kriesty
Norma, Joe L.	Peek, L. E.
North Augusta City Administration	Peek, L. M.
Charles B. Marten	Peel, Francis K.
North Augusta City Council	Peel, Margie
	Pelc, Sue
	Pellard, Anne
	Petterson, Joseph G.
	Peure, Chuck
	Phillips, Diane
	Phillips, Jamie
	Phillips, Stanton J.
	Pike, Jr., Walter L.
	Pines, David
	Plenter, Margaret
	Poeser, Sammie
	Polding, M.
	Polite, Carl F.
	Polite, Debra
	Pollard, Barbara
	Poole, Sara
	Pope, W. O.
	Porcelli, G. M.
	Postos, Marlin
	Powell, Samuel H.
	Price, Bill
	Price, Caroline
	Price, Rebecca S.
	Priester, Lucille
	Priester, Michael B.
	Prince, Bill
	Proctor, Eileen
	Purltard, Brian
	Quarles, Stephanie L.
	Quhaley, L. H.
	Quiyim, Ifraj T.
	Raber, Wallace
	Radduck, Danny
	Rafoth, Abby
	Rammon, Clark
	Ramsay, Phillip
	Randall, Linda
	Rannarie, Sheldon
	Raudle, G.
	Rawiel, Caleb
	Ray, Ailene B.

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Ray, Joyce A.	Rucker, M. J.	Sethi, B.
Receuh, Teresa	Rudd, Nell O.	Sewearing, Sandra
Reed, Priscilla	Ruffins, Helen R.	Shade, Connie H.
Reeve, Arnold P.	Runne, J. L.	Shane, Jason A.
Reforth, Robert J.	Rurtraus, Rocky	Sharpe, Martha
Reid, Dhemiétris	Rutlan, William L.	Shaw, John
Reneu, C.	Ryan, A.	Sheets, Laura L.
Reyer, Ester A.	Ryberg, W. Grieg	Sherron, Jane
Rice, Patti	Safford, Emma	Shogren, Dotti
Ricesnue, Marmi	Saita, Ronald P.	Shores, Rebecca N.
Richmond City 118th H. Harold	Salyer, Linda	Shuferl, Jerry
Righ, Thomas F.	Sampson, Barbara S.	Sides, Karen
Ritchie, Donald E.	Sampson, John R.	Signon, Stephen S.
Roberson, L. Seche	Sampson, Jr., Edwin M.	Simmons, Tonya A.
Roberson, Lonnie	Sanders, Bernard	Simms, Tori J.
Roberson, Rebecca	Sanders, James F.	Simpson, Annie B.
Roberson, Toby	Sanders, Karl	Simpson, Jr., John E.
Roberts, Alison L.	Sanders, Kenneth	Sinclair, Jerry
Robin, Paul	Sandri, Karlene B.	Sizemore, Gail
Robinette, Jim	Sandri, Nader F.	Skinner, Harriett F.
Robinette, Sarah L.	Santos, Annie I.	Smith, Brenda
Robinson, Ebony	Sapp, Thomas M.	Smith, Bryan
Robinson, Georgina	Sareely, Leta	Smith, C.
Robinson, Shirley	Saugh, Robert A.	Smith, Corrine
Rogers, David	Saunders, Carla	Smith, Daniel R.
Rogers, Kathryn	Savannah River Technical Center Margaret J. Schwanker	Smith, Darie C.
Rolland, Gwendolyn	Sawcutt, Marilyn	Smith, Davan
Romaine, Jr., Gerald J.	Sawyer, Gloria	Smith, Debbie
Rorinler, Bill	Scales, Josh	Smith, Ernest W.
Rose, Karen	Schmidt, James A.	Smith, Frank
Rose, Mary Anne	Schmitt, James C.	Smith, Helen
Rosenkrantz, Melissa	Schneider, David	Smith, James A.
Ross, Addie O.	Schreiber, Barbara	Smith, James T.
Ross, Cary	Schultz, Jr., Richard E.	Smith, Kelly
Ross, Erin A.	Scott, Hugh A.	Smith, Lein A.
Ross, Sr., L. M.	Sedder, Roland S.	Smith, Markus L.
Rothine, S.	Sein, Christina	Smith, Mildred
Rouse, Angela	Selder, Mather	Smith, Norma N.
Rowell, Joy	Seles, Patrick	Smith, Richard B.
Roy, James C.	Sestanich, James R.	Smith, Susan H.
		Sosa, Jennifer

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Sox, Cynthia	Tater, Joseph	Van Haastreht, Katrina
Spade, Phillip	Taylor, Clint	Vann, Miriam
Sparks, Edwards	Taylor, John C.	Vaughn, J.
Spears, T. J.	Taylor, Mary	Vaun, Gregory
Spivey, Dennis	Teahell, Julie	Veren, Natalia
Spradler, Joey	Temple, Grady Ronald	Veres, C.
Stallings, Adrenea M.	Teriyle, Linda P.	Vernon, Bradley
Stallings, Jay L.	Thaury, Rusty	Vert, Jason
Stalworth, Robert	The Journal	Void, Deborah C.
Standefer, Ray	Walt Inabinet	Voss, Austin J.
Stanley, Allison N.	Therigh, J.	Wade, Jeon
Stanley, III, Walter G.	Thibault, Jeffery	WAGT-TV, NBC News
Stanton, Richard M.	Thomas, Bob	Illegible
Stapleton, Suzanne	Thomas, Candice	Waken, Patience F.
Starleys, Dargreline	Thomas, Dennis	Waldron, Helen L.
Steadman, Leanne	Thomas, Jermia H.	Waldron, Sr., Jams E.
Stealey, John	Thomas, Patricia P.	Walh, Angie M.
Stephen, D. L.	Thomas, Stephanie	Walker, Debbie
Stevens, Karen	Thomas, Troy T.	Walker, Geraldine
Stewart, Cynthia	Thomas, Veronica	Walker, Harrison
Stewart, Myrtle	Thompson, Josiah C.	Walker, Michael
Stiheling, C. E.	Thompson, Kay R.	Walker, Stephanie
Still, Patricia	Thompson, Renee	Walker, Tracy
Still, Stephanie A.	Thompson, Shanta R.	Wallace, Lenora S.
Stills, R.	Thurnell, Ted	Wallace, Mary
Stoker, N. A.	Tobell, Matt	Walling, Elaine S.
Stone, Lesa E.	Trapp, Andrew	Walpile, Douglas L.
Stovall, James	Tuekes, Regina	Walpole, H.
Stratlin, Jr., Charles H.	Tuely, Susan S.	Walsh, Brian
Strickland, Steve	Tuntarella, Nick	Walters, Will C.
Sutphin, Shannon M.	Turner, Carman A.	Ward, Mike
Sviha, Diane	Turner, Gloria	Ware, Holly A.
Swan, Dianne	Turner, Jason	Warming, R.
Swerker, J. Suellen	Turner, Jennie	Warner, Milton E.
Taber, Quentin E.	Turner, Jermel O.	Wash, Norman L.
Talbert, Gregory F.	Turner, T. J.	Wash, Ramona K.
Talbet, Ginger	Turner, Todd	Washington, Glenn R.
Talbet, Larry	Tyler, R.	Washington, Jareth
Tanner, Julius	Unison, Jr., Thomas	Waters, Daniel G.
Tanner, Mary	Utley, Sue	Waters, James J.
Tate, Elaine	Vafade, Karan	Waters, Jennifer

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Wead, Rich	White, Thomas
Weaver, Paul A.	Whitefield, John W.
Weegians, Debra	Whitlock, Jessica L.
Wells, Keli	Wilburn, Be Anna
Wells, Rodriaguz	William, Gary
Wells, Jr., Willie L.	William, Gregory
Wemut, R. H.	William, Helen P.
Wenger, Melissa	Williams, Allen
West, David A.	Williams, Cathy
West, William L.	Williams, David
Westinghouse Savannah River Company	Williams, Flora P.
Margy Beckmeyer	Williams, John L.
John Stephen Bellany	Williams, Mae
Jeffrey M. Bollibon	Williams, Michael
John A. Burnett	Williams, S. M.
L. G. Call	Williams, Theresa Lee
Robert T. Hess	Williams, Timothy B.
Illegible	Williams, Twame
Lucas Jackson	Williams, Vivian J.
Reginald Jerdun	Williams, Walter
Robert Kellner	Williford, Nicole
Warren C. Lucas	Willyha, Katrina
Lessier B. Price	Wilson, Emily
Patricia B. Smith	Wilson, Erinn
Wetter, Herbert P.	Wilson, J. N.
White, A.	
White, Deborah S.	
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Chantler, Joan	Grubmil, Ffei
Demaria, Gregg	Holenstein, Kathryn Cherie
Drageaux, Barbara	Low, Ian and Aiko
Ferguson, Ken	Pearson, Christine
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Allen, Roderick M.	Burge, Lori
Anonymous	Callison, Liz
Barry, Tricia	Carley, Laura
Beyer, Jim and Pat	Carley, Randie
Boese, Bill	Case, Rhonda
Bortnick, Rick	Charneski, Christine
	Wing, F. W.
	Wingate, Rath C.
	Winn, Leslie
	Winters, Kenneth R.
	Wollua, J.
	Wood, Angela
	Wood, Kathy L.
	Woodard, Inez
	Woodrow, A.
	Woods, W. T.
	Woodward, Richard D.
	Worthy, Samatha L.
	Wright, Castella E.
	Wright, David L.
	Wright, Donald
	Wright, Mikeia
	Yanger, Ana M.
	Yanze, Noah
	Yarbrough, Robin M.
	Young, M. C.
	Youngblood, Janice F.
	Youngblood, W. Lewis
	Zilhite, C.
	Zipper, Jerry
	Zniddleton, Latoya
	Peauxa, John
	Reif, David
	CIIBRI
	Frank Gearhart
	Clinger, Sebastian
	Copeland, Edward
	Crawford, Marge
	Dafoe, Vera L.

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Ennis, Sara	Koski, Elizabeth
Ettlin, Lauren	Lack, Larry
Frazier, Bruce	Lee, Sharon
Fredrich, Ruth O.	Lettowmaer, Margaret
Freeborn, Johnni	Leveque Ph.D, Phillip
Gayek, Alexandra	Lichtenwald, Daniel
Giddings, Rochelle	Liptan, Sherry and Tom
Greenfield, Lou and Del	Marbet, Lloyd
Grossman, Charles M.	Marsh, Betty Jane
Hair, Anne E.	McGehee, Marian
Hammond, Terry	McLoughlin, Maura
Hartford, Susan R.	McMurry-Smith, Wanda Lee
Hines, Maxine	McNary, Janet
Honke, Michael	Meyers, Marcia
Israel, Adar	Monarch Software
Israel, Tabiah	Anonymous
Janzon, Gretchen	Norton, Elias
Jayne, Victoria	Norton, Patrick W.
Johnson, Chuck	Nussbaum, Rudi and Laureen
Jones, Mary V.	Oakley, J. A.
Joslin, Rose Mary	Pairo, Rill
Juergens, Kathleen	Penfield, Janet
	Pfeffer, John
	Piippo, Laurel
	Richardson, Ann
	Robinson, Bob
	Schimpf, Amy
	Seborer, Robert
	Sims, Lynn
	Southworth, Laurie P.
	Starr, Charles
	Starr, George and Irene
	Tinemen, Charles
	Tracy, Nancy Lou
	Ullom, Richard L.
	Walicki, Joe
	Ward, Lee Ann
	Ward, Rayner
	Weibel, Emma Lee
	Wheeler, Dori and Rollin
	Wilson, Dave
	Wolter, Pamela
	Woods, Crystal

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CACTUS Denise Lee	NAC International Kristian Kunert	Rich Freeman Bob Selby
Crawford, Sidney	Nuclear Control Institute Tom Clements	U.S. Department of Energy, Federal Energy Technology Center
Defense Nuclear Facilities Safety Board Roy Kasdorf	Nuclear Information and Resource Service Mary Olson	Harold Chambers U.S. Department of Energy, NEPA Policy and Assistance
Duke Energy Corporation Steven P. Nesbit	Numark Associates, Inc. Jon R. Chase	Brad Morse U.S. Department of Energy, Office of Declassification
Economic Development Partnership Ernest S. Chaput	Physicians for Social Responsibility Kathryn Crandall	Bruce W. Bremer U.S. Environmental Protection Agency
Exchange/Monitor Publications Daniel Horner	Curt Wozniak Prisoners of Our Homes Geneva Johnson	Mary E. Clark U.S. Environmental Protection Agency, Office for Federal Activities
Inside Energy Tarun Reddy	Safe Energy Communication Counsel Linda Gunter	Susan Absher Women’s Action for New Directions
Institute for Energy & Environmental Research Lisa Ludwidge	States News Service Mary Shaffrey	Ann Ober
Joseph D. LaFleur, Inc. Joseph D. LaFleur	Stone & Webster Engineering Corporation Paola Rozzi	
Los Alamos National Laboratory Faris Badwan		
Afternoon Session		
20/20 Vision Cari-Ann LaGrassa	Embassy of Australia Matthew Quint	Magnus Associates D.K. Magnus
Bengelsdorf, McGoldrick and Associates Harold Bengelsdorf	Embassy of the Russian Federation Aleksander Khlunov	Neuhold, Robert J. Nuclear Control Institute
Blue Ridge Environmental Defense League Janet Marsh Zeller Louis A. Zeller	Environmental Coalition on Nuclear Power Judith Johnsrud	Steven Dolley Nuclear Energy Institute
BNFL, Inc. Malcolm Bolten	JUPITER Corporation April Marcy	Felix Killar Nuclear Information and Resource Service
Center for International Nuclear and Radiation Safety Ed Purvis	Kinnelly Associates Francis Kinnelly	Mary Olson Physicians for Social Responsibility
Clavel, Guy	LIMITCO Jan Forsythe Chris Moller	Kathryn Crandall Safe Energy Communication Counsel
COGEMA, Incorporated Vijay K. Sazawal	MACTEC, Inc. Roxanne Fournier	Linda Gunter Stevens, Barbara

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Chapter 2

Summary of Major Issues Identified During the Comment Periods and Changes to the SPD Draft EIS

The following paragraphs highlight comments and, issues that the public raised concerning information provided in the SPD Draft EIS. These comments were collected during the two separate public comment periods for the SPD Draft EIS and the *Supplement*. Changes made to this SPD EIS in response to a comment are described.

2.1 Summary of Major Issues Raised on the SPD Draft EIS During the Public Comment Period

Russian Disposition Program. A number of commentors expressed concern over Russian disposition activities and tying U.S. activities to Russian activities. The United States and Russia recently made progress in the management and disposition of plutonium. In July 1998, Vice President Gore and Russian Prime Minister Sergei Kiriyenko signed a 5-year agreement to provide the scientific and technical basis for decisions concerning how surplus plutonium will be managed. In September 1998, Presidents Clinton and Yeltsin held a Moscow summit and signed a statement of principles with the intention of removing approximately 50 t (55 tons) of plutonium from each country's stockpile. The United States does not currently plan to implement a unilateral program; however, it will retain the option to begin certain disposition activities in order to encourage the Russians and set an international example. DOE has updated this SPD EIS to reflect the agreement and statement of principles and included copies in Appendix A of Volume II.

Site Selection. A large number of comments were received advocating one candidate site over another for various reasons, including the presence of existing facilities that could prove beneficial to plutonium disposition, skilled workers, safety records, reduced transportation, and perceived economic benefits. DOE has chosen SRS as its preferred site for the three surplus plutonium disposition facilities, as outlined in Section 1.6.

Approach to Plutonium Disposition. A number of commentors protested DOE's preference for the hybrid approach and the use of MOX fuel for surplus plutonium disposition. Among the comments received on this issue were many advocating the use of the immobilization approach for all of the surplus plutonium. Commentors argued that the immobilization approach was safer, cheaper, and faster. They also pointed out that the immobilization approach resulted in less transportation. Because specific reactors in North Carolina, South Carolina, and Virginia have been proposed for plutonium disposition, the transportation requirements associated with several hybrid alternatives that include the MOX facility at SRS and Pantex have decreased (because the proposed reactors are closer to these sites than the 4,000-km [2,500-mi] bounding distance analyzed in the SPD Draft EIS). As a result, these hybrid alternatives would require less transportation than some of the 50-t (55-ton) immobilization alternatives. Other commentors viewed the MOX approach as a Federal Government subsidy of the commercial nuclear power industry. Use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard.¹

Safety and Health. Comments were received that questioned the safety and health aspects of operating the surplus plutonium disposition facilities. Commentors pointed out that DOE's safety record at other nuclear facilities had been poor in the past and questioned DOE's ability to safely operate the disposition facilities. The health and safety of workers and the public is a priority of the surplus plutonium disposition program, regardless

¹ "Spent Fuel Standard" is a term coined by the National Academy of Sciences (NAS, 1994, *Management and Disposition of Excess Weapons Plutonium*, National Academy Press, Washington, D.C., pg. 12) and modified by DOE (glossary from Office of Fissile Materials Disposition Web site at <http://www.doe-md.com>) denoting the main objective of alternatives for the disposition of surplus plutonium: that such plutonium be made roughly as inaccessible and unattractive for weapons use as the much larger and growing stock of plutonium in civilian spent nuclear fuel.

of which approach is chosen. Operation of the disposition facilities would comply with applicable Federal, State, and local laws and regulations governing radiological and hazardous chemical releases. Within these limits, DOE believes that the radiation exposure and the level of contamination should be kept as low as is reasonably achievable.

Aqueous Processing of Plutonium. Some commentors questioned DOE's ability to produce clean plutonium dioxide that could be used in MOX fuel using the dry process proposed in the SPD Draft EIS. Questions were raised about the ability of this process to remove gallium and other pit materials from the plutonium before it is fabricated into MOX fuel. On the basis of public comments received on the SPD Draft EIS and the analysis performed as part of the MOX procurement, DOE has included plutonium polishing (a small-scale aqueous process) as a component of the MOX facility to ensure adequate impurity removal from the plutonium dioxide. Appendix N (which addressed plutonium polishing in the SPD Draft EIS) was deleted from this SPD Final EIS, and the impacts discussed therein were included in the impacts presented for the MOX facility in Chapter 4 of Volume I. Section 2.4.3 was also revised to include a discussion of plutonium polishing.

No attempt was made to evaluate the use of DOE's existing aqueous processing lines capable of dissolving pits, as advocated by some commentors. DOE determined that such aqueous processing, while a proven technology, is not a reasonable alternative for pit conversion because current aqueous processes using existing facilities would produce significant amounts of waste, and aqueous processing would complicate international inspection regimes because of classification issues.

Reprocessing. Several comments were received related to the reprocessing of plutonium and the civilian use of plutonium. The use of U.S. surplus plutonium in existing domestic, commercial reactors does not involve reprocessing. The proposed use of MOX fuel is consistent with the U.S. nonproliferation policy and would ensure that plutonium that was produced for nuclear weapons and subsequently declared excess to national security needs is never again used for nuclear weapons. The MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. At the end of the useful life of the facility, DOE would evaluate options for D&D or reuse of the facility for other purposes.

Inclusion of Generic Reactor Information in the SPD Draft EIS. Many comments were received on the inclusion of generic reactor information in the SPD Draft EIS. At the time the SPD Draft EIS was released, DOE did not know which specific reactors would be proposed for the MOX program. Subsequently, the Catawba, McGuire, and North Anna reactors were chosen as part of the contractor team that would implement the MOX option should the decision be made in the SPD EIS ROD to go forward with the hybrid approach (i.e., both immobilization and MOX). Specific reactor information provided as part of the procurement process was evaluated by DOE in an Environmental Critique in accordance with DOE's NEPA regulations at 10 CFR 1021.216. The Environmental Critique was considered by DOE before awarding the contract. An Environmental Synopsis based on the Environmental Critique was prepared and released to the public for comment in the *Supplement*. The comments received on the *Supplement* are summarized and responded to in Volume III, Chapter 4, of the Comment Response Document. An opportunity for public comment will also likely be provided by NRC during the reactor operating license amendment process.

Transportation Concerns. Commentors raised concerns about the transportation involved with moving the surplus plutonium from storage locations to disposition sites and, in some cases, MOX fuel to reactor sites. Requests were made to limit the transportation where possible, to present the transportation information in a more understandable manner, and to ensure that the transportation was conducted as safely as possible. Additional information has been added to Chapter 2 of Volume I, of this SPD Final EIS, which shows the total transportation associated with each alternative and gives a graphic depiction of the transportation needed for each disposition

approach (immobilization and MOX). As discussed in this SPD EIS, safe transportation is a major concern of DOE. All shipments of surplus plutonium would be accomplished using the safe, secure trailer/SafeGuards Transport (SST/SGT) system.² Since the establishment of the DOE Transportation Safeguards Division in 1975, the SST/SGT system has transported DOE-owned cargo over more than 151 million km (94 million mi) with no accidents that resulted in a fatality or release of radioactive material.

Cost of Plutonium Disposition. Many commentors focused on the cost of various surplus plutonium disposition facilities. Because cost issues are beyond the scope of this SPD EIS, commentors are referred to DOE's *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998) and *Plutonium Disposition Life Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999). Comments concerning the basis for DOE's cost estimates or requesting cost information were forwarded to DOE's cost analysis team.

2.2 Summary of Major Issues Raised on the Supplement to the SPD Draft EIS During the Public Comment Period

Frequency of Reactor Accidents in Reactors Using MOX Fuel. A number of comments argued that the frequency of reactor accidents would be greater due to the use of MOX fuel. As reflected in the accident analysis included in Section 4.28, the consequences of a beyond-design-basis accident using MOX fuel are generally higher than those expected in the same reactor using low-enriched uranium (LEU) fuel. However, there is no basis for concluding that the frequency of these accidents would increase due to the use of MOX fuel. During the base contract period, the contractor team would work with the utilities to confirm the characteristics of the MOX fuel and whether any design modifications are necessary to maintain safety margins. No change in the frequencies of reactor accidents due to the use of MOX fuel has been made in this SPD Final EIS.

Risk Associated With Reactors Using MOX Fuel. Many commentors were concerned that there is an increase in accident risk from reactors using MOX fuel and that the plutonium in MOX fuel makes a reactor accident more dangerous to human health. There are differences in the expected risk of reactor accidents from the use of MOX fuel. Some accidents would be expected to result in lower consequences to the surrounding population, and thus, lower risks, while others would be expected to result in higher consequences and higher risks. The largest estimated increase in risk to the surrounding population due to the use of MOX fuel is an estimated 14 percent increase in the risk of latent cancer fatalities associated with an interfacing systems loss-of-coolant at North Anna. The likelihood of this accident occurring at North Anna is estimated to be one chance in 4.2 million per year. Before any MOX fuel is used for plutonium disposition, NRC would perform a comprehensive safety review that would include information prepared by the reactor plant operators as part of their license amendment applications. Expected risk is discussed in Section 4.28 of this SPD EIS.

Environmental Impacts Associated With Using MOX Fuel Versus LEU Fuel. Comments were received expressing a concern that the SPD Draft EIS failed to recognize avoided environmental impacts associated with using MOX fuel versus LEU fuel in existing commercial reactors. While the consequences of a beyond-design basis accident might be higher (as discussed above), and a slight increase in spent fuel could be expected by using MOX fuel instead of LEU fuel, the impacts associated with mining, milling, and enriching uranium are avoided. Section 4.28.3 has been added to this SPD Final EIS to address this issue.

² The SST/SGT is a specially designed component of an 18-wheel tractor-trailer vehicle. Although the details of the vehicle enhancements are classified, key characteristics are not, and include: enhanced structural supports and a highly reliable tie-down system to protect cargo from impact; heightened thermal resistance to protect the cargo in case of fire; deterrents to protect the unauthorized removal of cargo; couriers who are armed Federal officers and receive rigorous training and are closely monitored through DOE's Personnel Assurance Program; an armored tractor to protect the crew from attack; advanced communications equipment; specially designed escort vehicles containing advance communications and additional couriers; 24 hr-a-day real-time monitoring of the location and status of the vehicle; and significantly more stringent maintenance standards.

Low-Level Waste. Comments were received on the isotopic breakdown of the low-level waste (LLW) that would be generated at the reactors using MOX fuel and the effect of this waste on existing burial grounds. There are differences in fission product inventories and activation products between an LEU and MOX core during a fuel cycle. However, the only time significant quantities of fission products could be released to the environment or end up in LLW would be in the event of a large-scale fuel leak. In regard to normal operations, experience with fabricating MOX fuel indicates a leakage rate of less than one-tenth of one percent. The use of MOX fuel would not be expected to result in any additional LLW because the reactors would continue to operate on the same schedule as if they were using only LEU fuel.

Public Hearings. A number of comments were received regarding the need to hold public hearings near the proposed reactor locations. DOE's NEPA regulations require that at least one public hearing be held to receive comments on a draft EIS (10 CFR 1021.313[b]). A public hearing was held in Washington, D.C., to collect public comments on the *Supplement*. No additional hearings were held near the specific reactor sites, but comments were solicited in the areas surrounding the proposed reactors. The *Supplement* was sent to interested groups and individuals near each of the reactors and an informational meeting about the proposed use of MOX fuel, sponsored by a South Carolina State Senator, was attended by DOE during the comment period. The transcript of this meeting is presented as Appendix A of the Comment Response Document.

2.3 Changes to the SPD Draft EIS and the *Supplement*

DOE revised the SPD Draft EIS and its *Supplement* in response to comments received from other Federal agencies; tribal, State, and local governments; nongovernmental organizations; the general public; and DOE reviews. The text was changed to provide additional environmental baseline information, reflect new technical data, make editorial corrections, respond to comments, and clarify text. Some of these changes involved recalculations of the impacts discussed in Chapter 4 of Volume I. In addition, DOE updated information due to events or decisions made since the SPD Draft EIS and *Supplement* were provided for public comment. Sidebars are used throughout this SPD Final EIS to indicate where changes have been made. Below is a brief discussion of significant (e.g., noneditorial) changes.

Revised Preferred Alternative. In the SPD Draft EIS, DOE's preferred alternative for siting the proposed disposition facilities was identified as either Alternative 3 (the pit conversion, immobilization, and MOX facilities at SRS) or Alternative 5 (the pit conversion facility at Pantex and the immobilization and MOX facilities at SRS). Under either alternative, the hybrid approach (i.e., immobilization and MOX) was preferred with the immobilization technology being the can-in-canister approach. No preference was identified in the SPD Draft EIS for the lead assembly or postirradiation examination activities, nor were the specific reactors that would use MOX fuel identified.

The *Supplement* identified SRS as the preferred site for the construction and operation of the pit conversion, immobilization, and MOX facilities. The *Supplement* also identified LANL as the preferred site for lead assembly activities and ORNL as the preferred site for postirradiation examination activities. Section 1.6 of this SPD Final EIS now identifies Alternative 3 as DOE's preferred alternative. In addition, Section 2.1.3 now identifies the three reactor sites that have been named as candidates for using MOX fuel subject to NRC license amendment. They are the Catawba Nuclear Station in York County, South Carolina; the McGuire Nuclear Station in Mecklenburg County, North Carolina; and the North Anna Power Station in Louisa County, Virginia.

Changes to the Immobilization Facility. Since the issuance of the SPD Draft EIS and as described in the *Supplement*, DOE has developed a more detailed conceptual design for the can-in-canister immobilization facility. Changes in the size of the immobilization facility have been reflected in Volume I, Chapter 2, of this SPD Final EIS and the associated impact analyses throughout Chapter 4. No changes have been made to the

basic processes proposed in the SPD Draft EIS for immobilization, to the amount of material being considered for immobilization, or to the rate of throughput.

As stated in the *Supplement*, the eight alternatives that included using portions of Building 221–F at SRS for immobilization (SPD Draft EIS Alternatives 3B, 5B, 6C, 6D, 7B, 9B, 12B, and 12D) were eliminated. These alternatives are no longer reasonable because the amount of new construction required for the proposed immobilization facility is now nearly the same whether the facility is located entirely in a new building or uses a portion of Building 221–F. Thus, there is no longer any advantage associated with the use of Building 221–F at SRS.

Changes Resulting From the MOX Procurement Process. As stated in the *Supplement*, information provided as part of the MOX procurement process relating to the MOX facility, including the addition of a plutonium-polishing module to the front end of the MOX facility, was analyzed by DOE in an Environmental Critique and summarized in an Environmental Synopsis prepared pursuant to DOE’s NEPA regulations in 10 CFR 1021.216. The Synopsis was included in the *Supplement* and has been added to this SPD Final EIS as Appendix P. Appendix N, *Plutonium Polishing*, has been deleted from this SPD Final EIS, with the information in Appendix N incorporated into the body of the EIS. A description of the polishing module has been added to Section 2.4.3, and the impacts analysis has been incorporated into Chapter 4 of Volume I. The polishing step is included in the MOX facility, so plutonium polishing is no longer considered as a contingency for the pit conversion facility.

As described in the *Supplement*, the size of the MOX facility has increased. The larger MOX facility is described in Volume I, Chapter 2, of this SPD Final EIS, and the associated environmental impacts are presented throughout Chapter 4. No changes have been made in the amount of material proposed to be made into MOX fuel, the facility’s throughput, or in the overall process to be used to fabricate the fuel.

Information related to the affected environment for the specific domestic commercial reactors that would irradiate the MOX fuel was provided in the *Supplement* and has been added to this SPD Final EIS as a new Section 3.7. Environmental impacts analyzed for the actual reactor sites was also provided in the *Supplement* and has been added to Section 4.28 of this SPD Final EIS.

Possible Delay of the Construction of the Actinide Packaging and Storage Facility. As stated in the *Supplement*, the schedule for the Actinide Packaging and Storage Facility (APSF) is uncertain at this time, and therefore, the disposition facilities at SRS analyzed in this SPD Final EIS were modified to disregard any benefit to the proposed facilities as a result of APSF being present. Chapter 4 of Volume I presents the environmental impacts that would be associated with the construction and operation of surplus plutonium disposition facilities at SRS that are stand-alone and include no reliance on storage space or other functions at APSF. Throughout this SPD Final EIS, references to APSF have been qualified by the phrase “if built,” and no credit has been taken in the environmental analyses for the presence of APSF.

Pit Repackaging Requirements. This SPD Final EIS was changed to reflect new decisions on the repackaging of pits at Pantex for long-term storage and the impacts of that decision on the need to repackage the pits for offsite transportation.

Pit repackaging for long-term storage. As discussed in the *Supplement*, work is currently under way to repackage all pits at Pantex from the AL–R8 container into the AL–R8 sealed insert (SI) container for long-term

storage,³ as described in the *Supplement Analysis for: Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components—AL–R8 Sealed Insert Container* (August 1998). This effort would be completed over 10 years, and the estimated dose to involved workers received from this repackaging activity would be about 104 person-rem. The SPD Draft EIS analyzed repackaging of the pits in an AT–400A container. The change to the AL–R8 SI changes the undisturbed long-term storage period for pits from 50 to 30 years because of the need to replace a seal in the container after 30 years; the AT–400A does not require that activity. This change has been incorporated into Chapter 4 of Volume I.

Pit repackaging for offsite transportation. The AL–R8 SI is not an offsite shipping container as was the AT–400A analyzed in the SPD Draft EIS. Therefore, if the decision were made to site the pit conversion facility at a site other than Pantex, the surplus pits would have to be taken out of the AL–R8 SI and placed in a shipping container.⁴ This operation would also require the replacement of some pit-holding fixtures to meet transportation requirements. It is expected that this change would result in a total repackaging dose to involved workers of 208 person-rem. If the decision were made to locate the pit conversion facility at Pantex, then the pits could be moved from their storage location to the pit conversion facility in the AL–R8 SI using onsite transportation vehicles. Under this option, there would be no increased exposures due to repackaging. This change has been incorporated into Chapter 4 of Volume I.

Environmental Impacts Associated With MOX Fuel Versus LEU Fuel. Section 4.28.3 was added to this SPD Final EIS to address the impacts associated with using MOX fuel versus LEU fuel in existing commercial reactors.

Uranium Conversion Impacts. Section 4.30.10, Incremental Impacts Associated With Uranium Conversion, was added to address potential impacts of the conversion of depleted uranium hexafluoride to uranium dioxide. (See Sections 1.5, 2.4.4.2 and 2.4.4.3 for a discussion on conversion.)

New/Revised Documents and Changes to Cumulative Impacts. Section 1.7 of the SPD Draft EIS, Relationship to Other Actions and Programs, (Section 1.8 in this Final) was updated to reflect new or revised planning documents and related NEPA documents, such as the *Environmental Assessment for the Parallel Project Fuel Manufacture and Shipment*, the *ROD for the Department of Energy’s Waste Management Program: Treatment of Non-Wastewater Hazardous Waste*, the *Advanced Mixed Waste Treatment Project Final EIS* and ROD, and the *Final Environmental Impact Statement on Management of Certain Plutonium Residues and Scrub Alloy Stored at the Rocky Flats Environmental Technology Site* and RODs. The information in the most recent and programmatic site documents has been used to update the discussion of cumulative impacts in Section 4.32 of this SPD Final EIS. In addition, cumulative impacts information has been added for LLNL and LANL (two candidate sites for lead assembly fabrication), ORNL (a candidate site for postirradiation examination), and the three reactor sites (Catawba, McGuire, and North Anna).

³ DOE is considering leaving the repackaged surplus pits in Zone 4 at Pantex for long-term storage. An appropriate environmental review will be conducted when the specific proposal for this change has been determined (e.g., whether additional magazines need to be air-conditioned). The analysis in this document assumes that the surplus pits are stored in Zone 12 in accordance with the ROD for the *Storage and Disposition PEIS*.

⁴ At the present time, DOE is using the FL container for the offsite shipment of pits. There are not enough of these containers to meet the plutonium disposition mission. No new FL containers can be manufactured because of certification restrictions. Further, the current FL containers cannot be certified for a specific type of surplus pit. The Defense Nuclear Facilities Safety Board, in its Recommendation 99–1 (August 1999), noted that there is no container suitable for shipping pits from Pantex. Should DOE make any decisions that would require shipment of pits from Pantex, DOE would ensure the availability of a certified shipping container in a timeframe that would support those decisions.

Affected Environment. Information on the affected environment for ORNL, a candidate site for postirradiation examination, has been added to Volume I, Chapter 3, of this SPD Final EIS.

Consultations. Appendix O was added to provide the correspondence related to ecological resources, cultural resources, and Native American consultations. Table 5-2 provides a summary of these consultations, and Section 4.26 discusses the results of the consultations.

Fast Flux Test Facility. Appendix D of the SPD Draft EIS was deleted. This SPD Final EIS does not address using the Fast Flux Test Facility (FFTF) because the current DOE proposals do not include the use of surplus plutonium as a fuel source for FFTF.

Comment Response. Volume III, the Comment Response Document, was added to this SPD Final EIS. The comments received during the two comment periods and their responses are presented in a side-by-side-format.

Chapter 3

Comment Documents and Responses on the SPD Draft EIS

This chapter presents scanned images or transcriptions of all written or oral comments submitted to DOE on the SPD Draft EIS, with the DOE responses. In most instances, the response appears on the same page as the corresponding comment. Where many comments appear on a single page, however, the responses may extend to succeeding pages. The comments and responses are presented in the following order:

- Comments from members of Congress and from Federal agencies. The comments are integrated alphabetically by State.
- Comments from State and local officials and agencies, special interest groups, organizations, companies, and individuals. The comments are integrated alphabetically by State.
- Oral comments recorded at the five public hearings.
- Campaign documents submitted by special interest groups, organizations, companies, and individuals.

UNITED STATES SENATE
HONORABLE MAX CLELAND, GEORGIA
PAGE 1 OF 1

MAX CLELAND
GEORGIA
WASHINGTON, D.C. 20510
202-451-1921

COMMITTEE
ARMED SERVICES
GOVERNMENTAL AFFAIRS
SMALL BUSINESS

United States Senate

WASHINGTON, DC 20510-1005

August 6, 1998

The Honorable Bill Richardson
Secretary of Energy
1000 Independence Avenue, SW
Washington, D.C. 20585

Dear Bill:

As you know, the Department of Energy Plutonium Disposition Program is one of our Nation's highest priority efforts to ensure national and international security. We should continue to provide world leadership in nuclear non-proliferation and I commend your Department for its work on this program.

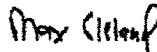
The Savannah River Site (SRS) stands ready to accept all of the Plutonium Disposition missions and in my opinion, should be the site of choice to accomplish these missions. The existing infrastructure, experience, expertise, and demonstrated plutonium processing accomplishments are not found at any other site under consideration for the Plutonium Pit Disassembly and Conversion phase. The capabilities and advantages of SRS which resulted in its being selected as the preferred site for the Mixed Oxide Fuel Fabrication and Immobilization phases of the disposition program should make SRS the preferred site for Pit Disassembly and Conversion as well.

By consolidating all of the program phases at SRS, the taxpayers will save hundreds of millions of dollars. Avoiding the cost of duplicating the existing SRS nuclear infrastructure at another site to make that site capable of doing this work should be a major consideration in site selection.

This surrounding community fully supports SRS and the Plutonium Disposition Missions. To the best of my knowledge, you will not find that level of support at any other site in the DOE complex. Such local support is key to ensuring the complete and timely success of the of the Plutonium Disposition Program.

I believe that these and many other benefits strongly support SRS as the preferred site for Pit Disassembly and Conversion. I look forward to working with you and the people in your Department as the decision making process continues.

Most respectfully,



Max Cleland
United States Senator

SCD46

SCD46-1

Alternatives

DOE acknowledges the Senator's support for the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

UNITED STATES SENATE
HONORABLE PAUL D. COVERDELL, GEORGIA
PAGE 1 OF 1

PAUL D. COVERDELL
GEORGIA
CONFERENCE SECRETARY



CHAIRMAN
WESTERN HEMISPHERE SUBCOMMITTEE
FOREIGN RELATIONS COMMITTEE
CHAIRMAN
MARKETING, INSPECTION, AND PRODUCT
PROMOTION SUBCOMMITTEE
AGRICULTURE COMMITTEE
SMALL BUSINESS COMMITTEE

Representatives of the Department of Energy, guests and interested stakeholders: thank you for the opportunity to submit comments in support of future missions at the Savannah River Site.

As you are well aware, the Savannah River Site has played a key role in the security of our Nation and world over the past fifty years. During this time, our Nation has called upon the people and the community of the Central Savannah River Area to work efficiently and diligently for the betterment of our Nation. Not only have these citizens taken this upon themselves, but they have done so in a way that has made us all proud. I would like to take this opportunity to commend the people of the Savannah River Site who have successfully fulfilled and accomplished missions of the past, and will share in missions of the future.

I hope that by now, it is clear to DOE that the community support for the Savannah River Site is second to none within the DOE Complex. We are proud of this support and trust that you will weigh it heavily in your upcoming decision making process on Plutonium Pit Disassembly and Conversion.

Looking toward the future, we must continue to locate viable options for the Site. I found it only fitting that you selected SRS as the preferred site for the Mixed Oxide Fuel Facility and the Immobilization Process, but was not surprised. SRS has produced plutonium for the Department of Energy from its conception, and it is clear that SRS has the infrastructure and demonstrated experience and expertise to ensure the success of these missions.

With these same attributes and qualifications, SRS stands ready to accept the Plutonium Pit Disassembly and Conversion mission. Consolidation of all three missions of the Plutonium Disposition Program at SRS will save taxpayers of our Nation hundreds of millions of dollars in capital and operating costs.

Also, let us not forget the fact that SRS has the people that can fulfill this mission. A well trained and knowledgeable work force has been established at this site. This work force will meet or exceed any safety or efficiency standard.

In continuing our obligation to maintain national security for the people of the United States, it is imperative that we move forward with the Pit Disassembly and Conversion mission. I look forward to working with the Savannah River Site, the Department of Energy, and of course, the citizens of the area, to help establish this mission for the Site with the least amount of environmental impact.

I thank you for the opportunity to submit comments during this important program and site selection process.

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SCD52

SCD52-1

Alternatives

DOE acknowledges the Senator's support for the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

PAUL D. COVERDELL
GEORGIA

CHAIRMAN
WESTERN HEMISPHERE SUBCOMMITTEE
FOREIGN RELATIONS COMMITTEE

United States Senate
WASHINGTON, DC 20510-1004

Representatives of the Department of Energy, guests and interested stakeholders, thank you for the opportunity to submit comments to the Surplus Plutonium Disposition Environmental Impact Statement of the Department of Energy at the Savannah River Site.

As you are well aware, the Savannah River Site has played a key role in the security of our Nation and world over the past fifty years. During this time, our Nation has called upon the people and the Community of the Central Savannah River Area to work efficiently and diligently for the betterment of our nation. Not only have these citizens taken this upon themselves, but they have done so in a way that has made us all proud. I would like to take this opportunity to commend the people of the Savannah River Site who have successfully fulfilled and accomplished missions of the past and will share in missions of the future.

Looking toward the future, we must continue to locate viable options for the Site. One mission is Plutonium Disposition. I find it only fitting that we consider the Savannah River Site for this mission, as it was SRS who produced plutonium for the Department of Energy from its conception. It is my understanding that the Department of Energy is currently examining two possible methods of plutonium disposition at SRS, Mixed Oxide Fuel (MOX) fabrication and immobilization. I have been informed that both of these methods may require some purification of plutonium before they can be stored in their final form, and that SRS is the only Department of Energy site that can purify any significant quantity of these materials. If this is so, and as we in Congress continue to work to balance our Nation's budget, it appears that by selecting SRS the Department could save our country from unnecessary expenditures.

Furthermore, the current infrastructure at SRS would allow for these missions to be put in place with relative ease. The Site currently works on immobilization of spent nuclear fuel at its Defense Waste Processing Facility, and has facilities that could be made available for MOX fuel fabrication. By already having the infrastructure in place to accomplish this mission, SRS is one step ahead of its competitors.

Also, let us not forget the fact that SRS has the people that can fulfill this mission. A well trained and knowledgeable work force has been established at this site. This work force will meet or exceed any safety or efficiency standard.

In continuing our obligation to maintain national security for the people of the United States, it is imperative that we move forward in the disposition of certain amounts of plutonium. I look forward to working with the Savannah River Site, the Department of Energy, and of course, the citizens of the area, to help establish this mission for the Site with the least amount of environmental impact.

I thank you for the opportunity to submit comments during this meeting.

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SCD106

SCD106-1

Alternatives

DOE acknowledges the Senator's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

UNITED STATES HOUSE OF REPRESENTATIVES
 HONORABLE CHARLIE NORWOOD, GEORGIA
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COMMERCE COMMITTEE
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 Health and Environment
 EDUCATION AND THE WORK-FORCE
 SUBCOMMITTEE
 Workright and Investigations
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August 13, 1998

The Honorable Bill Richardson
 Secretary
 United States Department of Energy
 Washington, DC 20585

Dear Mr. Secretary:

As you know, the citizens of the Central Savannah River Area take great pride in their association with the Savannah River Site (SRS). Unlike other field sites across the country, the support for future missions at SRS is unquestionable.

One such mission is plutonium disposition. Over the next several months, as you weigh all the options for siting this mission, I ask that you consider the following issues:

1. **Infrastructure:** the infrastructure at SRS would allow the dual-track approach of plutonium disposition to proceed with relative ease. Currently, the site works on immobilization of spent nuclear fuel at its Defense Waste Processing Facility. It also has facilities that would be made available for Mixed Oxide (MOX) Fuel Fabrication;
2. **Workforce:** SRS already has the qualified workforce that is needed to fulfill this mission. A well-trained and knowledgeable workforce will meet or exceed any safety or efficiency standard needed to fulfill the requirements of this mission; and,
3. **Community Support:** Through resolutions and letters of support from community leaders and citizens in both Georgia and South Carolina, it is clear that the Central Savannah River Area is eager to continue to lead the country toward meeting its obligation of maintaining the national security for the people of the United States.

While I applaud DOE's selection of SRS as the preferred site for the MOX and immobilization elements of this program, it is my understanding that consolidation of all three elements of the Plutonium Disposition Program at SRS would result in significant cost savings. It is also the most expeditious path to achieving the program objectives. The potential for hundreds of millions of dollars of savings to the taxpayers is something we must monitor and insist upon as the decision process evolves.
 The Honorable Bill Richardson

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SCD17

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SCD17-1

Alternatives

DOE acknowledges the Congressman's support for siting the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure. Although existing facilities and processes at SRS could support the pit disassembly and conversion process, a new facility would be built. However, supporting infrastructure and complementary missions would be used to the extent possible. Further, as noted by the Congressman, SRS has a well trained and knowledgeable workforce and wide community support.

Because this comment relates directly to the cost analysis report, it has been forwarded to the cost analysis team for consideration. The *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, is available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

**UNITED STATES HOUSE OF REPRESENTATIVES
HONORABLE CHARLIE NORWOOD, GEORGIA
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August 13, 1998
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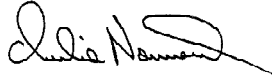
One concern I do have with the Environmental Impact Statement (EIS) for the program is that it does not adequately address the existing facilities and processes at SRS – especially in the conversion of the plutonium pits to the oxide needed for MOX fuel or immobilization. Therefore, I encourage you to review this issue before the final decisions are made on pit disassembly and conversion.

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Mr. Secretary, SRS has been a vital part of our community and a vital link to our nation's national security for over 40 years. Therefore, it is my hope that you will rely on this valuable resource as you site the plutonium disposition, as well as future DOE missions, throughout the remainder of your tenure at DOE.

Finally, I would personally like to invite you to visit the Site over the next few months as you adapt to your new role as the Secretary of Energy. I look forward to continuing our relationship on energy issues that began when we both served together on the House Commerce Committee.

Sincerely,



Charlie Norwood
Member of Congress

SCD17

UNITED STATES HOUSE OF REPRESENTATIVES
HONORABLE CHARLIE NORWOOD, GEORGIA
PAGE 3 OF 3

Plutonium Disposition Talking Points
The Honorable Charlie Norwood
August 13, 1998

- In the Department of Energy Surplus Plutonium Disposition Draft Environmental Impact Statement issued in July 1998, DOE states a preference for locating immobilization and MOX fuel fabrication facilities at SRS. DOE also states a preference for a pit disassembly and conversion facility to be located at either SRS or Pantex in Amarillo, TX.
- SRS is the clear choice for all three disposition activities (immobilization, MOX, and pit disassembly and conversion) for technical and financial reasons. SRS has the supporting infrastructure, trained personnel, and a long history of safe operations.
- SRS is unique from all the other DOE field sites in that it has the unanimous support of the local community, state government, and local congressmen and senators.
- SRS has over 40 years of experience of receiving, handling, storing, dissolving, purifying, converting, stabilizing, packaging, monitoring, and shipping plutonium in various forms. The Defense Waste Processing Facility at SRS is a proven immobilization facility. The Pantex site in Texas only has experience in the disassembly and storage of sealed plutonium weapons components.
- DOE's own cost estimates cite that it is \$60 million cheaper to build a pit disassembly and conversion facility at SRS than at Pantex. If politics didn't play a role here, this decision would be a no-brainer.
- DOE has failed to accurately reflect the cost savings of locating all three disposition activities at SRS, causing Senator Thurmond to request a GAO study a couple of weeks ago. This review ought to confirm the advantages of locating pit disassembly and conversion at SRS and hopefully provide a comprehensive cost savings to perform all of the work at SRS.

1

SCD17

UNITED STATES HOUSE OF REPRESENTATIVES
HONORABLE CHARLIE NORWOOD, GEORGIA
PAGE 1 OF 1

COMMERCE COMMITTEE
SUBCOMMITTEES
Energy and Power
Health and Environment
EDUCATION AND THE WORKFORCE
SUBCOMMITTEE
Oversight and Investigations
Army Caucus
Rural/Health Care Caucus
Sportsman's Caucus

Charlie Norwood
10th District, Georgia
Congress of the United States
House of Representatives
1707 Longworth Building
Washington, DC 20515
(202) 225-4101
June 25, 1997

DISTRICT OFFICES
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Duluth, GA 31021
(912) 275-2074
1776 N. Jefferson Street, Suite 8
Milledgeville, GA 31661
(912) 453-0273

The Honorable Federico Pena
Secretary
United States Department of Energy
Washington, DC 20585

Dear Mr. Secretary:

As you know, the citizens of the Central Savannah River Area take great pride in their association with the Savannah River Site (SRS). Unlike other field sites across the country, the support for future missions at SRS is unquestionable.

One such mission is plutonium disposition. Within the next year, as you weigh all the options for siting this mission, I ask that you consider the following issues:

1. **Infrastructure:** the infrastructure at SRS would allow the dual-track approach of plutonium disposition to proceed with relative ease. Currently, the site works on immobilization of nuclear waste at its Defense Waste Processing Facility. It also has facilities that could be made available for Mixed Oxide (MOX) Fuel Fabrication;
2. **Workforce:** SRS already has the qualified workforce that is needed to fulfill this mission. A well-trained and knowledgeable workforce will meet or exceed any safety or efficiency standard needed to fulfill the requirements of this mission; and,
3. **Community Support:** Through resolutions and letters of support from community leaders and citizens in both Georgia and South Carolina, it is clear that the Central Savannah River Area is eager to continue to lead the country toward meeting its obligation of maintaining the national security for the people of the United States.

Mr. Secretary, SRS has been a vital part of our community and a vital link to our nation's national security for over 40 years. Therefore, it is my hope that you will rely on this valuable resource as you site the plutonium disposition, as well as future DOE missions, throughout the remainder of your tenure at DOE.

Sincerely,



Charlie Norwood
Member of Congress

PRINTED ON RECYCLED PAPER

SCD76

SCD76-1

Alternatives

DOE acknowledges the Congressman's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

UNITED STATES HOUSE OF REPRESENTATIVES
HONORABLE PETER DEFazio, OREGON
PAGE 1 OF 1

PETER DEFazio
7th District, Oregon
RESOURCES COMMITTEE
SUBCOMMITTEE
WATER AND POWER RESOURCES
TRANSPORTATION AND
INFRASTRUCTURE
SUBCOMMITTEE
AVIATION
SURFACE TRANSPORTATION



Congress of the United States
House of Representatives

August 18, 1998

- PLEASE RESPOND TO:
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(503) 486-5222
- P.O. BOX 2460
ROSEBURG, OR 97470-0811
(503) 486-5222
- Peter.DeFazio@ms.house.gov

Mr. Howard R. Canter
Acting Director
Office of Fissile Materials Disposition
P.O. Box 23786
Washington, D.C. 20026

re: Comments on the Surplus Plutonium Disposition Draft Environmental Impact Statement

Dear Mr. Canter:

I want to thank the U.S. Department of Energy for holding this hearing in Oregon and for recognizing that Oregonians are significantly affected by actions at Hanford. I support the Secretary's decision in the SPD DEIS not to use any facilities at Hanford for mixed oxide fuel fabrication or fuel production. This decision should be maintained and affirmed in the Final EIS.

1

While I have grave misgivings about any use of mixed oxide fuel in nuclear reactors to dispose of surplus plutonium, I applaud the Secretary's recognition that Hanford's efforts must be focused on cleanup of its existing nuclear weapons wastes. The DEIS rightly recognizes that new missions that would create more waste at Hanford or contaminate buildings or facilities that have not previously been contaminated must not be allowed to occur.

I understand that the scope of the SPD DEIS does not address where mixed oxide fuel would be burned once it is fabricated and that the Department of Energy will address that issue in a separate proceeding. Nevertheless, let me make it clear that the same logic that has compelled the Secretary to conclude that mixed oxide fuel should not be made at Hanford should also govern his decision regarding the site for burning mixed oxide fuel. Burning mixed oxide fuel at Hanford would create more waste and complicate the ongoing cleanup effort.

2

Hanford must have one mission and only one mission: to clean up the enormous amount of nuclear waste that already exists at the site. Hanford presents a threat to the people of Oregon and Washington. I have previously introduced legislation to make Hanford and other federal facilities comply with the requirements of the Clean Water Act. I will continue to work to make sure that the threat Hanford presents to the people of the Northwest is contained and safely cleaned up.

1

Sincerely,

PETER DEFazio

THIS STATIONERY MADE WITH RECYCLED FIBERS

ORD04

ORD04-1

Alternatives

DOE acknowledges the Congressman's opposition to siting the MOX facility at Hanford and the MOX approach. DOE believes that Hanford's efforts should remain focused on its current high-priority cleanup mission. The importance of cleanup at Hanford was taken into consideration in identifying preferred sites for surplus plutonium disposition activities. However, no decision has been made, and DOE will continue to consider Hanford for surplus plutonium disposition or other programs that are compatible with the Hanford mission.

ORD04-2

MOX RFP

As stated in this SPD EIS, the irradiation of MOX fuel would occur at domestic, commercial reactors. DOE conducted a procurement process to acquire MOX fuel fabrication and irradiation services. As a result of this procurement process, DOE identified the reactors proposed to irradiate MOX fuel, the Catawba, McGuire, and North Anna nuclear stations, as part of the proposed action in this EIS. Section 4.28 was revised to discuss the potential environmental impacts of operating the selected reactors. Hanford is not a preferred site for either MOX fuel fabrication or irradiation.

UNITED STATES HOUSE OF REPRESENTATIVES
HONORABLE ELIZABETH FURSE, OREGON
PAGE 1 OF 1

ELIZABETH FURSE
1ST DISTRICT, OREGON
COMMITTEE
COMMERCE
SUBCOMMITTEE ON
ENERGY AND POWER
SUBCOMMITTEE ON
HEALTH AND ENVIRONMENT
SUBCOMMITTEE ON
FINANCE AND HAZARDOUS MATERIALS

Congress of the United States
House of Representatives
Washington, DC 20515-3701

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FAX (202) 225-8487
e-mail: RepElizabethFurse@mail.house.gov
www.house.gov/furse/

STATEMENT: HEARING with US DEPARTMENT OF ENERGY, Portland, OR
REGARDING SURPLUS PLUTONIUM DISPOSITION
August 18, 1998

Thank you for the opportunity to speak to you today. Tonight you
will hear testimony from scientists, grassroots organizations and
concerned citizens. It is essential that public participation
remain an integral part of decisions of the magnitude we are here
today to discuss.

Hanford remains the most contaminated nuclear dump in the nation.
Perched on the banks of the Columbia River it is the site with the
greatest potential for disaster.

While I firmly support the reduction of the United States'
stockpile of nuclear warheads, Hanford is not the site where the
excess plutonium should be contained, let alone reprocessed into a
mixed oxide fuel. Making plutonium into MOX ushers in a new era of
nuclear proliferation. It does not make economic sense,
environmental sense or humanitarian sense.

The only mission at Hanford should be containment and clean up and
never, never the creation of more toxic waste.

ELIZABETH FURSE
Member of Congress

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ORD10

ORD10-1

General SPD EIS and NEPA Process

DOE agrees with the Congresswoman that public participation is an integral part of the decisionmaking process, and strives to provide as many means as possible for obtaining public input and participation.

ORD10-2

Alternatives

DOE acknowledges the Congresswoman's opposition to siting the proposed surplus plutonium disposition facilities at Hanford and the MOX approach. DOE believes that Hanford's efforts should remain focused on its current high-priority cleanup mission. The importance of cleanup at Hanford was taken into consideration in identifying preferred sites for surplus plutonium disposition activities. However, no decision has been made, and DOE will continue to consider Hanford for surplus plutonium disposition or other programs that are compatible with the Hanford mission.

U.S. policy dating back to the Ford Administration has prohibited the commercial, chemical reprocessing and separation of plutonium from spent nuclear fuel. The use of U.S. surplus plutonium in existing commercial reactors does not involve reprocessing (reprocessing is a chemical separation of uranium, transuranic elements [including plutonium], and fission products from spent reactor fuel and the reuse of the plutonium and uranium to produce new fresh fuel). The proposed use of MOX fuel is consistent with the U.S. nonproliferation policy and would ensure that plutonium which was produced for nuclear weapons and subsequently declared excess to national security needs is never again used for nuclear weapons.

UNITED STATES SENATE, HONORABLE STROM THURMOND AND HONORABLE ERNEST F. HOLLINGS
UNITED STATES HOUSE OF REPRESENTATIVES, HONORABLE JAMES E. CLYBURN, LINDSEY O. GRAHAM, BOB INGLIS, MARK SANFORD,
FLOYD D. SPENCE, AND JOHN M. SPRATT, JR., SOUTH CAROLINA
PAGE 1 OF 3



Strom Thurmond
U.S. Senator South Carolina

Press Release

Contact: John DeCrosta
Press Secretary

UWA (202) 224-7730
For Immediate Release

DoE Must Take Next Step at SRS

Washington, June 23, 1998—In a letter hand delivered today to Secretary of Energy Federico Pena, Senator Strom Thurmond (R-SC) said that the Department of Energy needs to decide where the pit disassembly mission should go, and that the only logical place for this operation is at the Savannah River Site.

Thurmond outlined his position in a delegation letter he authored and had delivered to Pena this afternoon. Specifically, Thurmond said that the Department was on the right track in deciding to locate two of three vital plutonium missions at the Savannah River Site—the Mixed-Oxide Fuel Fabrication Facility, and the plutonium immobilization mission. Pit disassembly is considered the third key leg of the plutonium production mission and Thurmond says that operation belongs in South Carolina.

"I am pleased the Department has recognized the unique expertise and world class capabilities of the Savannah River Site to take on the Department's new MOX mission," said Thurmond. "We must now work to bring the pit disassembly mission to SRS as there is no facility better suited for this mission, and locating this operation in South Carolina will save the American taxpayer \$1.6 billion."

The Department of Energy has said that it is considering two locations for pit disassembly, one in Texas and the Savannah River Site. Thurmond said that the Department of Energy will have a very difficult task in making a compelling argument that Texas is a better place to locate this vital plutonium mission.

"The Department of Energy's policy of not introducing plutonium operations into a site where plutonium doesn't already exist is a sound one. Plutonium is not a material to be handled by amateurs. The skilled employees of the Savannah River Site have been competently and safely working with plutonium for years. It simply doesn't make economic or technical sense to conduct pit disassembly anywhere except Savannah River," said Thurmond. "The facility in Texas has never processed plutonium, they do not have a work force of individuals trained in how to process plutonium oxides or solutions. Further, it does not make sense to split up the plutonium production missions and recreate the complex and costly infrastructure necessary to handle plutonium safely. It is my hope that the department will soon decide to site the pit disassembly mission at the Savannah River Site, along with MOX fuel fabrication and immobilization activities."

A copy of Thurmond's delegation letter follows this release.

SCD77

SCD77-1

Alternatives

DOE acknowledges the Senators' and Congressmen's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

UNITED STATES SENATE, HONORABLE STROM THURMOND AND HONORABLE ERNEST F. HOLLINGS
UNITED STATES HOUSE OF REPRESENTATIVES, HONORABLE JAMES E. CLYBURN, LINDSEY O. GRAHAM, BOB INGLIS, MARK SANFORD,
FLOYD D. SPENCE, AND JOHN M. SPRATT, JR., SOUTH CAROLINA
PAGE 2 OF 3

STROM THURMOND
SOUTH CAROLINA

PRESIDENT PRO TEMPORE
UNITED STATES SENATE

COMMITTEES
ARMED SERVICES, QUERMAN
JUDICIARY
VETERANS AFFAIRS

United States Senate

WASHINGTON, DC 20510-4001

June 23, 1996

The Honorable Frederico F. Peña
Secretary
Department of Energy
Forrestal Building
1000 Independence Avenue, S.W.
Washington, DC 20580

Dear Secretary Peña:

We commend your decision to locate the Mixed-Oxide Fuel Fabrication Facility at the Savannah River Site (SRS). We agree that SRS is the best site to take on this new mission; however, a crucial decision is still forthcoming regarding the final component of the Plutonium Disposition Program: pit disassembly and conversion. It is our firm belief that SRS is the right location for this mission and should be designated the consolidated plutonium disposition site.

SRS has been safely and efficiently handling plutonium materials since the 1950's. In 1997 DOE referred to SRS as "a plutonium-competent site with the most modern state-of-the-art storage and processing facilities and a site with the only remaining large-scale chemical separation and processing capability in the DOE complex." Further, in the 1996 Final Programmatic Environmental Impact Statement for Stockpile Stewardship and Management regarding Pit Manufacturing at Pantex, DOE stated, "Plutonium would not be introduced into a site that does not currently have a plutonium infrastructure because of the high cost of new plutonium facilities and the complexity of introducing plutonium operations into sites without current plutonium capabilities."

We believe the policy of only introducing plutonium into a site with extensive plutonium handling experience is valid and correct. Further, we believe this policy should apply to pit disassembly and conversion as it has for pit manufacturing. Selecting SRS as the site for this program will reaffirm the Administration's position on this matter. Aside from being environmentally sound, the decision to consolidate the entire Plutonium Disposition Program makes economic sense as well. Siting the three components of this program at SRS will result in over \$1.6 billion of cost savings to the American Taxpayer, taking into consideration both capital and life cycle costs. The Department recently announced the intention to move to single complex-wide integrating contracts as part of an effort to increase efficiency. This concept should apply to the Materials Disposition Program. Selecting a single site and single contractor for all Plutonium Disposition Missions will result in greater efficiency.

SCD77

UNITED STATES SENATE, HONORABLE STROM THURMOND AND HONORABLE ERNEST F. HOLLINGS
UNITED STATES HOUSE OF REPRESENTATIVES, HONORABLE JAMES E. CLYBURN, LINDSEY O. GRAHAM, BOB INGLIS, MARK SANFORD,
FLOYD D. SPENCE, AND JOHN M. SPRATT, JR., SOUTH CAROLINA
PAGE 3 OF 3

will result in greater efficiency.

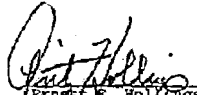
We are aware that the department is considering processing multiple waste products from other sites at SRS prior to their ultimate destination at a national repository, which we hope will be sited and open to receive waste materials on schedule. If DOE seeks cooperation from the people of South Carolina in this effort, then it is vital that attention be given to our concerns over future missions at SRS.

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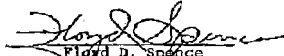
Selecting SRS to take on the Plutonium Disposition Mission is the right decision for DOE and our Nation. SRS has the trained personnel, technological infrastructure, and community support to accept this mission. No other site can make such a claim. We firmly believe that the entire Plutonium Disposition Program should be sited at SRS. Selecting any other site would be costly, technically risky, and short-sighted.

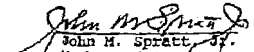
With kindest regards and best wishes,

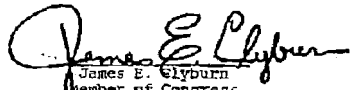
Sincerely,

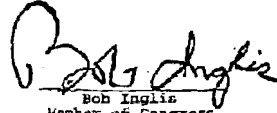

Ernest F. Hollings
United States Senator



Strom Thurmond
United States Senator


Floyd D. Spence
Member of Congress


John M. Spratt, Jr.
Member of Congress


James E. Clyburn
Member of Congress


Bob Inglis
Member of Congress


Lindsey O. Graham
Member of Congress


Mark Sanford
Member of Congress

SCD77

UNITED STATES SENATE
HONORABLE STROM THURMOND, SOUTH CAROLINA
PAGE 1 OF 2

STROM THURMOND
SOUTH CAROLINA

PRESIDENT PRO TEMPORE
UNITED STATES SENATE

COMMITTEES
ARMED SERVICES, CHAIRMAN
SOCIETY
VETERANS AFFAIRS

United States Senate
WASHINGTON, DC 20510-4001

August 13, 1998

Mr. Greg Rudy
Manager
Savannah River Site
Post Office Box A
Aiken, South Carolina 29802

Dear Mr. Rudy:

I regret that I am unable to attend today's hearing, but I would like to submit this statement for the record which outlines my support for the location of the pit disassembly mission at the Savannah River Site (SRS).

There are many strong and convincing reasons why the Savannah River Site is unquestionably the right choice to receive the entire plutonium disposition mission, not the least of which is that it is simply the most logical place to task with this critical function. As you know, two of the three plutonium disposition missions are already assigned to the Savannah River Site, and sending pit disassembly there guarantees efficiency in both program management and in budgetary considerations. I understand that by some estimates, giving SRS the pit disassembly mission will save the government approximately \$1.6 billion.

Furthermore, there is no location in the United States that has the infrastructure and highly skilled workforce in place to handle this mission. Locating pit disassembly at the Savannah River Site means that the Department of Energy (DoE) will be able to capitalize on assets already found in South Carolina. In an era when the Department of Energy is seeking ways to streamline its organization and to operate more efficiently, it does not make sense to split-up the plutonium disposition mission or to create what will be redundant infrastructure by building a pit disassembly facility at another DoE site.

Of course, public safety is an issue which must be taken into consideration and is one that exceeds all other considerations including budgetary savings. Plutonium is far too volatile a material to be handled by individuals or facilities that have no experience in dealing with it. As you know, the Savannah River Site has a longstanding and well earned reputation for safety. The men and women who work at SRS have been safely and efficiently handling plutonium since the 1950's and there is no reason for the Department of Energy to turn anywhere other than to a proven commodity.

In various documents published by the Department of Energy, that agency has acknowledged the suitability of the Savannah River Site for plutonium disposition missions. I refer to a 1997 Environmental Impact Statement, the Department of Energy referred to SRS as "a plutonium-competent site with the most modern, state-of-the-art storage and processing facilities, and... a site with the only remaining large-scale chemical separation and processing capability in the DoE complex." In a 1996 Final Programmatic Environmental Impact Statement for Stockpile Stewardship and Management regarding Pit Manufacturing at Pantex, DoE stated, "Plutonium would not be introduced into a site that does not currently have a plutonium infrastructure because of the high cost of new plutonium facilities and the complexity of introducing plutonium operations into sites without current plutonium

SCD44

SCD44-1

Alternatives

DOE acknowledges the Senator's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

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UNITED STATES SENATE
HONORABLE STROM THURMOND, SOUTH CAROLINA
PAGE 2 OF 2

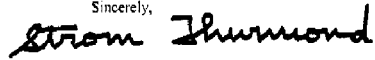
capabilities.

Simply put, there is no better place in the United States to locate pit disassembly than the Savannah River Site, a modern facility with a proven safety record, and capable of carrying out the demanding requirements of plutonium disposition. This is an assessment with which officials at the Department of Energy agree.

Mr. Rudy, though your superiors at the Department of Energy are already well aware of my commitment to seeing pit disassembly being located at the Savannah River Site, I could not allow the opportunity to go "on the record" one more time to pass. I appreciate your including my comments in the proceedings of today's meeting.

With kindest regards and best wishes.

Sincerely,



Strom Thurmond

ST/jd

STATEMENT FOR PLUTONIUM DISPOSITION DRAFT ENVIRONMENTAL
IMPACT STATEMENT -- NORTH AUGUSTA MEETING

Things going well in the chamber
Good evening, my name is Maury Lane. I work ~~at~~

Senator Hollings' ~~office~~ and have been asked by the
Senator to convey his strong support for this new mission
for the Savannah River Site.

This is actually a extremely nice moment for me. As
many know, before I started with Sen. Hollings I worked
for Westinghouse, specifically on ensuring that we had
enough federal appropriations to operate the site and to
work with the local community to find new missions for
the site.

When I first I began at Westinghouse it was crystal
clear that the Savannah River Site had world-class
employees with world-class skills with a world-class
safety record. Let me tell you, *Mr. House then* ~~DOE~~ knows there ~~are~~
harder working, smarter, safer employees at any DOE site.

If Senator Hollings were here, he would say one thing
The Savannah River Site is the ONLY site for the
Immobilizations, MOX Fuel and Pit Dissassembly and
Conversion, because there is no leadership that can do it
better, cheaper, safer and quicker than the SRS site.

Why is SRS the right choice? Because the community

SCD16

SCD16-1

Alternatives

DOE acknowledges the Senator's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

at SRS has assembled the safest and most capable work-
force in the department; the Site has the facilities and
infrastructure needed; it is the cheapest option
available, and, as you are seeing here today, it enjoys
the local community's complete support.

DOE should know what everyone in Aiken already knows:
SRS has the safest and best trained workers in the DOE
complex. The site has been successfully handling
plutonium since it was created in the 1950s. DOE itself
called SRS, "a plutonium-competent site, with the most
modern, state-of-the-art storage and processing
facilities."

As a member of the Senate Energy and Water
Appropriations Subcommittee, Senator Hollings is keenly
aware of the great expense associated with handling
sensitive nuclear materials such as plutonium.

That is why we have been able to ensure that no
significant layoffs will occur in 1998 or 1999. In the
year 2000, we should be adding new jobs with the new MOX
mission through the next five years. That is a great
change from the difficult times of down-sizing.

Sen. Hollings has told DOE officials time and time
again that it makes no sense to introduce plutonium into

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SCD16

a site which does not have plutonium infrastructure or plutonium handling capabilities. To duplicate SRS's experience, know-how, and plutonium handling facilities would take years of work and cost millions of dollars. This is a luxury DOE does not enjoy.

Senator Hollings not only believes it would be a mistake, but DOE officials know too. In fact, DOE has said in the past, ^{Quote} "Plutonium (should) not be introduced into a site that does not currently have a plutonium infrastructure because of the high cost of new plutonium facilities and the complexity of introducing plutonium operations into sites without current plutonium capabilities." ^{Unquote} Senator Hollings agrees with this conclusion. It should follow that the Pit Disassembly and Conversion Facility should not be built in a site which does not have plutonium infrastructure. The risks would be too great.

Further, it is estimated that consolidating all three of the plutonium disposition components at SRS would save taxpayers roughly \$1.6 billion over the life of the program. This is a savings we cannot ignore.

As I am sure DOE officials can see from this meeting, the Aiken/Augusta community supports this site and

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SCD16

supports the addition of all of the plutonium disposition missions. When DOE brings these missions to South Carolina, it will know the depth of this support and the dedication of this community to DOE missions. In addition, the South Carolina Congressional delegation has the political will and power to secure these missions and keep them fully funded. [I challenge DOE to find political leadership any where else which is working as hard as this delegation ~~is at SRS.~~]

The merits lie with SRS, but how do we ensure that DOE sees these advantages? I know Senator Hollings has pledged to do everything he can to "show DOE the light." I was in the room on several occasions when Senator Hollings called then Energy Secretary Pena to lobby for SRS and the MOX Fuel mission.

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The Senator made it clear that the Savannah River Site was the only site for the MOX fuel facility. I know the Secretary got tired of hearing from the Senator.

In fact, it was probably a great relief for Secretary Pena when he called the Senator to tell him ~~his arguments had been convincing~~ and that the MOX plant was coming to S.C. I know Senator Hollings was grateful the Secretary

UNITED STATES SENATE
MAURY LANE FOR THE HONORABLE ERNEST F. HOLLINGS, SOUTH CAROLINA
PAGE 5 OF 6

saw it his way.

Now, Senator Hollings has more work to do. With the new Secretary of Energy, Bill Richardson, the Senator has more wearing down to do. In fact, Sen. Hollings has already heated up the lines between his office and the Secretary's. I know the Senator has already contacted the Secretary and has begun working to ensure Secretary Richardson chooses SRS as the site of the Pit Disassembly and Conversion Facility. There is no doubt Senator Hollings will put all 32 years of his Washington experience and his position as the senior Democrat on the Energy and Water Appropriations Subcommittee to work as he pushes DOE to do what is right and choose SRS as the Consolidated Plutonium Disposition Site.

Everyone at DOE should know this. The Savannah River Site has the capability to handle these missions in the safest, most cost-effective, and most efficient manner. Locating all three components here should be a simple decision, but simple decisions are not always made easily. I am sure Senator Hollings will make it his business to show the Secretary and the Department of Energy know just how easy this decision can be -- especially if SRS is chosen as the site.

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SCD16

Speaking for Senator Hollings, I can tell you he looks forward to working with DOE over the next several months to make sure the Department sees the importance and the wisdom of consolidating all three missions here at SRS. I thank the Aiken/Augusta community for their outstanding support and hospitality and I thank you for your attendance and support.

1

SCD16

LINDSEY GRAHAM
3D DISTRICT, SOUTH CAROLINA
EDUCATION AND THE
WORKFORCE COMMITTEE
NATIONAL SECURITY COMMITTEE
INTERNATIONAL RELATIONS COMMITTEE
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Congress of the United States
House of Representatives
Washington, DC 20515-4003

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PLUTONIUM DISPOSITION AT SRS

I continue to support the Department of Energy's current dual-track Plutonium Disposition plan. I must reduce the risk of proliferation of these materials to rogue states or terrorist organizations and I must do this in a responsible, cost-effective manner. The people of the Central Savannah River Area (CSRA) want to be part of the solution and I believe that Savannah River Site can and should play a vital role in disposing of this excess material.

The Department of Energy has made the right decision in selecting SRS and its skilled experienced work force as the MOX fuel fabrication site. I hope they continue to show that good judgement by selecting the most qualified, least expensive alternative for pit disassembly and conversion, the Savannah River Site. As I've said before, I have the luxury of having common sense and cost on my side, but, unfortunately, that doesn't always carry the day in Washington. It is incumbent upon us to prove this to DOE.

Savannah River Site is the best alternative for pit disassembly and conversion for the following reasons:

- ▶ Consolidating the three constituent parts of MOX (disassembly, conversion, and fabrication) at a site with existing plutonium infrastructure could save the Department and ultimately the taxpayers \$1.6 billion.
- ▶ The unparalleled community support for this program throughout South Carolina and Georgia, especially in the Aiken SC-Augusta GA area as evidenced by letters of support from Governor Beasley, numerous resolutions passed by local governments, several letters of support from the entire congressional delegation, and the appearance of so many Members of Congress here today.
- ▶ SRS has unparalleled expertise in dealing with plutonium and currently has the necessary plutonium infrastructure in place, an infrastructure that Pantex does not have.
- ▶ In the September 1996 Final Programmatic Environmental Impact Statement for Stockpile Stewardship and Management, the department wisely and correctly decided not to introduce plutonium oxide into a site that does not currently have a plutonium infrastructure.

"Plutonium would not be introduced into a site that does not currently have a plutonium infrastructure because of the high cost of new plutonium facilities and the complexity of introducing plutonium operations into sites without current plutonium capabilities."

Introduce plutonium into a site, like Pantex, that is already clean would create yet another Environmental Management cleanup problem.

- ▶ South Carolina has long been a supporter of the Department of Energy programs dating back to the Atomic Energy Commission and hopes to continue that relationship.

SCD49

SCD49-1

Alternative

DOE acknowledges the Congressman's support for the surplus plutonium disposition program at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

UNITED STATES HOUSE OF REPRESENTATIVES
HONORABLE LINDSEY O. GRAHAM, SOUTH CAROLINA
PAGE 1 OF 1

LINDSEY GRAHAM
3rd DISTRICT, SOUTH CAROLINA
ECONOMIC AND EDUCATIONAL
OPPORTUNITIES COMMITTEE
NATIONAL SECURITY COMMITTEE
INTERNATIONAL RELATIONS COMMITTEE
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Congress of the United States
House of Representatives
Washington, DC 20515-4003
June 18, 1997

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Aiken, SC 29801
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Mario P. Fiori
Manager
U. S. Department of Energy
Savannah River Operations Office
PO Box A
Aiken, South Carolina 29802

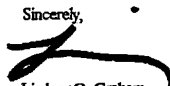
Dear Dr. Fiori:

I regret that I will not be able to personally attend the U. S. Department of Energy (DOE) sponsored workshops regarding plutonium; however, I hope your workshops prove to be productive and educational for those who participate.

I feel Savannah River Site (SRS) is the logical site for the surplus plutonium disposition mission. SRS possesses a dedicated workforce that is experienced in handling plutonium combined with modernized facilities, support infrastructure, and tremendous community support.

I am very supportive of DOE's proposed dual track for plutonium disposition. Pursuing both disposal options will give the U. S. the flexibility to select the appropriate disposal technology for the different grades of plutonium. The purity of the weapons-grade plutonium makes it well suited for use in mixed-oxide (MOX) fuel. Immobilizing other grades of plutonium could be the best option for disposing of this particular material.

Please accept my best wishes for a successful day of workshops and relay my sincerest regrets that I am not able to join you.

Sincerely,

Lindsey O. Graham
Member of Congress

LOG:rat

SCD105

SCD105-1

Alternatives

DOE acknowledges the Congressman's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

**UNITED STATES HOUSE OF REPRESENTATIVES
HONORABLE FLOYD D. SPENCE, SOUTH CAROLINA
PAGE 1 OF 1**

FLOYD SPENCE
20 District, South Carolina

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**Congress of the United States
House of Representatives**

June 19, 1997

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Horry
Lexington
Orangeburg
Pickens
Spartanburg
Union
York

Mr. Howard R. Canter
Acting Director
Office of Fissile Materials Disposition
United States Department of Energy
Post Office Box 23786
Washington, D.C. 20026-3786

Dear Mr. Canter:

I would like to commend the Office of Fissile Materials Disposition for having public meetings concerning the proposed "Surplus Plutonium Disposition Environmental Impact Statement" (SPD EIS). These forums provide a valuable opportunity for concerned citizens to have input into the decision making process in this important matter. It is a pleasure for me to join those who are commenting on the capabilities of the Savannah River Site for conducting the United States Department of Energy surplus plutonium disposition mission.

The Savannah River Site is ideally suited for the surplus plutonium disposition mission. It possesses the only operating large-scale plutonium processing facilities in the United States, and it has a work force that is experienced in the handling of plutonium. It also conducts the only certified training program in our Country for this specialized work. Recently, facilities at the Savannah River Site, that would be utilized in performing the surplus plutonium disposition mission, have been modernized and, under oversight from the Department, as well as the Defense Nuclear Facilities Safety Board, the staff has completed a readiness review for restarting those facilities. It is also my understanding that the Savannah River Site has the best plutonium handling safety record of the Department's facilities.

It is clear that the Savannah River Site has the complete range of infrastructure that is needed to carry out the proposed plutonium mission, as well as a highly skilled work force. Additionally, there is strong support for this mission from the communities surrounding the Site. I urge the Department to give most careful consideration to the excellent capabilities of the Savannah River Site for conducting the surplus plutonium disposition mission.

Sincerely,


FLOYD D. SPENCE
Member of Congress

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803-662-1310

TOLL FREE 800-545-6411

SCD107

SCD107-1

Alternatives

DOE acknowledges the Congressman's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

UNITED STATES HOUSE OF REPRESENTATIVES
HONORABLE FLOYD D. SPENCE, SOUTH CAROLINA
PAGE 1 OF 3

AUG 13. 1998 10:17AM

*Jim Pantex
DOE officials
Cong. Nowwood*

STATEMENT BY CONGRESSMAN FLOYD D. SPENCE
FOR THE UNITED STATES DEPARTMENT OF ENERGY PUBLIC MEETING
ON THE SURPLUS PLUTONIUM DISPOSITION DRAFT ENVIRONMENTAL IMPACT
STATEMENT

THURSDAY, AUGUST 13, 1998
NORTH AUGUSTA COMMUNITY CENTER - NORTH AUGUSTA, SOUTH CAROLINA

Please to be to help you make the proper decision in this matter

It is a pleasure for me to join those who are commenting today on the proposed sites for conducting the United States Department of Energy surplus plutonium disposition mission. I would like to commend the Office of Fissile Materials Disposition for having five (5) public meetings concerning the draft "Surplus Plutonium Disposition Environmental Impact Statement" (SPD EIS). These meetings provide a valuable opportunity for concerned citizens to have input into the decision making process in this important matter.

As the Congressman for the Second District of South Carolina, I am proud to represent an area of our State, which includes part of the Savannah River Site (SRS/Site), as well as counties that are heavily impacted by the Site. Also, as the Chairman of the House Committee on National Security, I am keenly aware of the crucial role that the Plutonium Disposition Program plays in our national security posture, which is of a high priority to the Congress.

The Department of Energy is currently assessing the capabilities of two locations, the SRS and the Pantex Plant, to carry out the first component of the Plutonium Disposition Program, that of pit disassembly and conversion. The Department is to be commended on the earlier decision to locate the Mixed-Oxide Fuel (MOX) Fabrication Facility at the SRS and I

would like to note at this point that, in the announcement of that decision, Former Secretary Pena particularly ~~emphasized~~ *put emphasis on the* the assets of the existing infrastructure and the expertise of the work force in *the handling of plutonium at the SRS.*

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SCD18

SCD18-1

Alternatives

DOE acknowledges the Congressman's support for siting the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure.

Because this comment relates directly to the cost analysis report, it has been forwarded to the cost analysis team for consideration. The *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, is available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility and approach to surplus plutonium disposition in the SPD EIS ROD.

-2-

the handling of plutonium at the SRS. These assets are equally as important to pit disassembly and conversion.

The SRS is ideally suited for the surplus plutonium disposition mission. It possesses the only operating large-scale plutonium processing capabilities in the United States, and the facilities that would be utilized in performing the surplus plutonium disposition mission have been modernized recently. Also, under oversight from the Department and the Defense Nuclear Facilities Safety Board, the highly skilled staff at the SRS has completed a readiness review for the continued operations of those facilities.

Another significant factor to consider is that of safety. The SRS is acknowledged as the safest Department of Energy site, with the best plutonium handling safety record of any of ~~the~~ Department's facilities. The American public recognizes that there are serious risks related to the handling of plutonium. Therefore, it is vital that a specially trained and experienced work force be entrusted with this responsibility. The SRS has such a work force.

Economy is also very important. In the Department's recent cost report, it is submitted that locating the pit disassembly and conversion mission at the SRS would save taxpayers at least \$60 million. Furthermore, I have been advised that the potential savings could reach \$715 million, using the +/- 40 percent factor. As a Member of Congress, who is striving to achieve fiscal responsibility and to maintain a strong national defense, I encourage the

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SCD18

UNITED STATES HOUSE OF REPRESENTATIVES
HONORABLE FLOYD D. SPENCE, SOUTH CAROLINA
PAGE 3 OF 3

-3-

Department to recognize the impressive savings benefits that are associated with locating this mission at the SRS.

In a joint letter to then Secretary Pena, on June 23, 1998, the entire South Carolina Congressional Delegation enthusiastically endorsed the location of the pit disassembly and conversion mission at the SRS. Additionally, there is strong support for this mission from the communities surrounding the Site, as well as throughout the ~~Palmetto~~ State of S.C.

In conclusion, it is clear that the SRS has the complete range of infrastructure and a highly skilled work force to meet the needs of the pit disassembly and conversion mission. Also, the SRS has an outstanding record of safely and efficiently handling plutonium, since the 1950's. In making a final decision in this matter, I urge the Department to carefully consider the impressive capabilities of the SRS. The SPRIS, as well as the associated comments that have been obtained through this series of public meetings, should serve the Department well in this regard. As in the assessment that led to the Department's decision to locate the MOX facility at the SRS, I am convinced that, when completely evaluated on its merits, the SRS is the logical choice to be the site for the pit disassembly and conversion mission. Thank you for providing me with this opportunity to address this issue today.

1

SCD18

**UNITED STATES SENATE, HONORABLE KAY BAILEY HUTCHINSON AND
HONORABLE PHIL GRAMM, TEXAS
PAGE 1 OF 2**

KAY BAILEY HUTCHINSON
TEXAS

United States Senate

WASHINGTON, DC 20510-4304

August 11, 1998

COMMITTEES:
APPROPRIATIONS
COMMERCE, SCIENCE,
AND TRANSPORTATION
RULES AND ADMINISTRATION

U.S. Department of Energy
Office of Fissile Materials Disposition
c/o SPD EIS
P.O. Box 23786
Washington, D.C. 20026-3786

Attention: Mr. Bert Stevenson, NEPA Compliance Officer

Re: Comment on DOE's Draft Surplus Plutonium Disposition Environmental Impact Statement

Dear Mr. Stevenson:

Thank you for the opportunity to comment on the Department of Energy's (DOE) Draft Surplus Plutonium Disposition Environmental Impact Statement (SPD EIS).

First and foremost, any current and future functions at Pantex must be conducted in a safe and environmentally sound manner. Our first priority is to ensure that expansion at Pantex does not impair the health or safety of area residents or have an adverse effect on the environment. This must be a prerequisite to any current or future activities at Pantex.

We are aware that DOE has selected the Savannah River Site (SRS) as the preferred alternative for the MOX fuel fabrication facility and is considering SRS, along with Pantex, as the location for the disassembly/conversion mission. We do not understand DOE's decision to site the MOX facility at SRS, since Pantex remains the best and most cost-effective site for that mission.

However, with regard to the proposed plutonium disposition actions and alternatives discussed by the DOE in the SPD EIS, we are concerned that locating the conversion mission at a site other than Pantex would unnecessarily increase any safety hazards of dealing with plutonium. Such a decision would also ignore the facts that make Pantex the most economically rational site.

Pantex is uniquely suited to assume this new function. Pantex currently safeguards more than 8,000 surplus pits and has a long history of effectively and safely handling and securing pits and the related infrastructure. Furthermore, given the current weapons disassembly and storage functions at Pantex, disassembly and conversion of the pits already located there is consistent with the historic mission of the plant.

Web--<http://www.senate.gov/~hutchinson/>
Internet--senator@hutchinson.senate.gov

TXD52

TXD52-1

General SPD EIS and NEPA Process

DOE acknowledges the Senators' support for siting the pit conversion and MOX facilities at Pantex. The environmental impacts of siting the proposed surplus plutonium disposition facilities at Pantex are summarized in Section 2.18.1 and analyzed in various sections in Chapter 4 of Volume I. The analyses show that such action would not have a major effect on the health, safety, and environmental resources in the Amarillo area.

TXD52-2

Alternatives

As indicated in Section 1.6, SRS is preferred for the MOX and pit conversion facilities because these activities complement existing missions and take advantage of existing infrastructure and staff expertise. In addition, SRS has extensive experience with plutonium processing. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

TXD52-3

Alternatives

In determining its preference, DOE also considered the transportation requirements for each alternative, including the shipment of surplus plutonium both in the form of pits (Alternative 3) and plutonium dioxide (Alternative 5) from Pantex to SRS. The transportation risks and costs would be slightly higher for Alternative 3 because the required number of SST/SGT shipments are higher for pits than plutonium dioxide. The radiological risk for both alternatives is about the same. All the candidate sites were considered to have adequate safeguards and security systems in place, as well as the capability to perform the necessary radiation monitoring and dosimetry.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost

UNITED STATES SENATE, HONORABLE KAY BAILEY HUTCHINSON AND
HONORABLE PHIL GRAMM, TEXAS
PAGE 2 OF 2

There are a number of other budgetary and policy reasons why DOE should site disposition functions at Pantex. First, due to its lower labor costs and utility rates, as well as its abundant **water and land availability, Pantex clearly is more cost-effective than SRS over the life of the program.** Second, transportation of plutonium in non-classified form (after disassembly and conversion at Pantex) to the SRS is far preferable to the perils that would be incurred by unnecessarily shipping plutonium in a weapons-ready form. Third, Pantex has the necessary **safety, security, and surveillance capabilities to accommodate an expanded role.** Finally, the Pantex plant enjoys unparalleled public and congressional support for new missions and could provide them at the lowest cost to the taxpayer.

3

In summary, we strongly believe that Pantex should be selected for the pit disassembly and conversion facility as soon as possible so that our country and DOE's plutonium disposition mission in general can benefit from Pantex's cost, safety, and productivity record. There is not another facility in the world that can perform this mission at the same caliber of Pantex.

Thank you for the opportunity to comment on this decision-making process.

Sincerely,


PHIL GRAMM
United States Senator


KAY BAILEY HUTCHISON
United States Senator

TXD52

estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following sites: Hanford, INEEL, Pantex, SRS, and Washington, D.C.



MAC THORNBERRY
12TH DISTRICT
TEXAS

Congress of the United States
House of Representatives

COMMITTEE ON
NATIONAL SECURITY
COMMITTEE ON
RESOURCES
JOINT ECONOMIC
COMMITTEE

Statement of Representative Mac Thornberry
at the Public Hearing on the
Department of Energy Surplus Plutonium Disposition
Draft Environmental Impact Statement
August 11, 1998

I would first like to thank, once again, the Department of Energy for holding this important public hearing on where to build the new facilities for the plutonium disposition program. This tremendously important program will allow our country to ensure that surplus weapons material in the former Soviet Union will not be used by any country to again threaten the security of the United States. I commend the Department, and its dedicated public servants, in working to secure such a future.

Before I turn to the specific issue at hand -- siting the pit disassembly and conversion facility at the Pantex Plant -- I want to provide some additional context. Since I came to Congress to represent this district three and a half years ago, one of my primary interests and concerns have been maintaining and strengthening our nation's nuclear weapons complex (because nuclear weapons remain the foundation of our defense posture). But at the same time, I have been heavily engaged in aggressively pursuing nonproliferation policies that serve to reduce the threat of nuclear war world wide. I am fortunate to represent a facility that has an opportunity to serve both of these important interests.

Acting upon these interests, I was able to travel to Russia last year to visit with their Minister of Atomic Energy and others about both US and Russian interests in plutonium disposition. Among the most important conclusions I drew from the experience was the need for our country to achieve our goals of Russian plutonium disposition as quickly as possible. I believe the United States has a particular and indefinite window of opportunity in which to act to help Russia eliminate the products of the Cold War that could still threaten us today. Neither I nor anyone else can know for sure when that window will close, or when the warming of US-Russo relations will once again cool. I believe we must take advantage of the opportunity that is presented to do as much as possible, as quickly as possible, and as effectively as possible.

1

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TXD04

TXD04-1

Nonproliferation

DOE recognizes the urgency of the disposition of Russian surplus plutonium and is working on many fronts to encourage timely progress. In late July 1998, Vice President Gore and Russian Prime Minister Sergei Kiriyenko signed a 5-year agreement to provide the scientific and technical basis for decisions concerning how surplus plutonium will be managed. This agreement enables the two countries to explore mutually acceptable strategies for safeguarding and dispositioning surplus plutonium. During the first week of September 1998, Presidents Clinton and Yeltsin held a Moscow summit and signed a statement of principles with the intention of removing approximately 50 t (55 tons) of plutonium from each country's stockpile. The United States does not currently plan to implement a unilateral program; however, it will retain the option to begin certain surplus plutonium disposition activities in order to encourage the Russians and set an international example.

As you are well aware, the Panhandle of Texas proudly possesses a long and superb record of service in support of our country's national security. In the last several years we have endured, if not enjoyed, a similarly long series of public comment sessions, briefings, and hearings on the future of Pantex and the role it will continue to play. On each of these occasions, our citizens have been pleased and proud to demonstrate our appreciation for the important work Pantex performs, our enduring interest in a safe environment, and our overwhelming public support for the Plant and its future missions.

And we come here again today to strongly urge you to place the plutonium pit disassembly facility at Pantex. Pantex is the common-sense choice--not because it is the best thing for our area, but because it is the best thing for our country. There are four key reasons for this:

1. **Pit disassembly is consistent with the historic mission of Pantex.** For over 40 years, Pantex has been the Department's primary facility for taking apart weapons and demilitarizing the component parts. Pit disassembly is a natural and common-sense extension of that mission. Because we have always done this type of work, we have a safe and solid history of strict production operations management. No current site in the complex has handled more pits, more times than Pantex.
2. **Pantex has the pits now.** This point is as significant as it is obvious.
 - **Transportation of the pits would be a logistical nightmare.** The pit packaging and unpacking expertise that exists today only at Pantex would have to be recreated at Savannah River at substantial cost. Furthermore, such a decision would put additional and unnecessary requirements on the Department's Transportation and Safeguards Division.
 - **Transportation of the pits would create unnecessary and additional proliferation risk.** Shipping over 15,000 plutonium pits across country in their classified weapons configuration is unnecessary and irresponsible. By performing pit disassembly at Pantex and then shipping demilitarized and unclassified plutonium oxide, the Department can eliminate such unnecessary risk.
 - **Transportation of the pits would create unnecessary and additional political risk.** Many political, budgetary and diplomatic issues stand as obstacles to quickly commencing the plutonium disposition strategy. Siting pit disassembly at Pantex allows the Department to move out aggressively on demilitarizing surplus weapons material in place and putting that material under bilateral inspection in a manner which enhances our arms control relationship with Russia. This important first step should occur independent of, and far in advance of, the politically and economically contentious MOX disposition process. As such, Pantex is the more affordable and flexible site for this long interim step before final disposition.

2

3

TXD04-2

Transportation

DOE acknowledges the Congressman's support for siting the pit conversion facility at Pantex and concern for the security of offsite shipment of pits. As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures or vehicle emissions are expected. Transportation would be required for both the immobilization and MOX approaches to surplus plutonium disposition. Transportation of special nuclear materials, including fresh MOX fuel, would use DOE's SST/SGT system. Since the establishment of the DOE Transportation Safeguards Division in 1975, the SST/SGT system has transported DOE-owned cargo over more than 151 million km (94 million mi) with no accidents causing a fatality or release of radioactive material. The transportation requirements for the surplus plutonium disposition program are also evaluated in this SPD EIS. Section 2.4.4.1 discusses safety measures taken for shipment of pits. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

TXD04-3

DOE Policy

Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself.

The remainder of this comment is addressed in response TXD04-1.

3. **Pantex enjoys unparalleled community and political support.** The Amarillo community and its elected officials are universal in their support of the Pantex Plant. Repeated public polling has shown support for the plant to be in the 80% range among the residents of the Amarillo area. Furthermore, the Plant enjoys the strong bi-partisan support of the 32-member-strong Texas Congressional Delegation. The Department must have broad based political support for its plutonium disposition strategy to succeed. Placing pit disassembly at Pantex only strengthens your hand.

4. **Pantex is ready to accept the mission.** Because the plant already enjoys extensive and modern support facilities and capabilities, no other site could take on the pit disassembly mission at a lower cost. Pantex has the most modern safeguards and security system, and a world-class and highly decorated guard force. The plant's emergency management system was recognized as the "Standard Setter" after a joint assessment by Defense Programs and Nonproliferation and National Security. Since this system already has in place integrated safety elements for plutonium operations, it could easily accommodate the new pit disassembly mission.

In summary, siting the pit disassembly mission at Pantex is the common-sense approach. It is consistent with what we have always done and allows the Department to avoid the cost and problems of having to transport the pits across the country. Finally, the workers at the plant, the members of our community, and the political leadership of our State are ready and willing to proudly accept this mission and begin a new partnership with your Department.

4

TXD04-4

Alternatives

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

The remainder of this comment is addressed in response TXD04-2.

UNITED STATES HOUSE OF REPRESENTATIVES
HONORABLE MAC THORNBERRY, TEXAS
PAGE 1 OF 1



MAC THORNBERRY
13th District
Texas

Congress of the United States
House of Representatives

August 18, 1998

COMMITTEE ON
NATIONAL SECURITY
COMMITTEE ON
RESOURCES
JOINT ECONOMIC
COMMITTEE

Ms. Laura Holgate
Director
Office Of Fissile Materials Disposition
Department of Energy
1000 Independence Ave., SW
Washington, D.C. 20585

Dear Laura,

You may recall that during the hearing last week in Amarillo, a number of speakers made the point that over the past two years the Savannah River Site had suffered 99 reportable safety incidents while Pantex had only experienced 10 reportable incidents. Although SRS employs roughly 5 times as many people as Pantex and each site has a very different mission, SRS had 10 times as many reported safety incidents.

I do not doubt that the SRS workforce is very capable, but I do want to emphasize what I believe is a very unique production and safety culture at Pantex. For over forty years, the personnel at Pantex have developed and refined a very professional work ethic characterized by strict adherence to safety rules. That is one of the reasons I believe the work should be performed at Pantex.

I trust you will consider the enclosed documents detailing this information as you analyze the siting decision.

Sincerely,

Mac Thornberry
Mac Thornberry
Member of Congress

WMT:ac

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417 FANNING HITE
WASHINGTON, DC 20515-4312
(202) 225-2766

724 SOUTH POLK, SUITE 400
FARMVILLE, VA 22941
(804) 321-1064

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WHEELER FALLS, VA 26301
(800) 767-4641

MD148

MD148-1

Human Health Risk

DOE acknowledges the Congressman's support for Pantex. The proposed surplus plutonium disposition facilities would be designed, constructed, operated, and deactivated in accordance with applicable Federal, State, and local environmental, safety, and health requirements. Specifically, 10 CFR 835, *Occupational Radiation Protection* (1995), requires the implementation of employee radiation safety indoctrination, education programs, and exposure-monitoring programs. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses (including occurrence reporting records of the candidate sites), technical and cost reports, national policy and nonproliferation considerations, and public input. (The Congressman's letter was received without the enclosed documents.)

**Surplus Plutonium Disposition
Draft Environmental Impact Statement**
Public Meeting August 4, 1998 Richland, WA

As part of the public scoping for the Surplus Plutonium Disposition Environmental Impact Statement, I urged the Department of Energy to compare and indicate costs of utilizing existing facilities such as those at Hanford versus the construction of new facilities. In addition, I stressed the importance of addressing timing considerations and comparisons to bring existing or new facilities on line in the most expeditious and economic way.

This draft EIS fails to adequately address cost or timing comparisons for the location alternatives. It does, however, eliminate the Hanford Site on the basis that the Department of Energy determined Hanford's cleanup mission is critical and should remain its top priority.

I do not disagree that cleanup remain a priority at Hanford, as it should be at all DOE sites. However, I fear that the Department's decision to eliminate Hanford as an alternative location is fiscally irresponsible and will most certainly impact future available cleanup funding. Hanford's existing multipurpose Fuels and Materials Examination Facility (FMEF), could afford considerable cost savings, as determined by the National Academy of Sciences and DOE's 1996 cost estimate. The current cost analysis is in conflict with those previous analyses. This disregard for the true overall costs of plutonium disposition will be detrimental in attempting to obtain sufficient funding levels for this and other important DOE activities, including cleanup at Hanford and all Department of Energy sites.

Furthermore, time is critical in reducing the availability of excess weapons-grade materials, therefore utilization of existing facilities would be beneficial in bringing the disposition project in line.

It is imperative that credible cost and timing analyses be used in the decision making process for plutonium disposition. I urge the Department of Energy to reevaluate cost and timing factors for its location alternatives in the Record of Decision.

SLADE GORTON
UNITED STATES SENATOR

WAD20

WAD20-1

Cost

This comment has been forwarded to the cost analysis team for consideration. The *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998) report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

DOE believes that Hanford's efforts should remain focused on its current high-priority cleanup mission. The importance of cleanup at Hanford was taken into consideration in identifying preferred sites for surplus plutonium disposition activities. However, no decision has been made, and DOE will continue to consider Hanford for surplus plutonium disposition or other programs that are compatible with the Hanford mission, especially in regard to the use of existing facilities.

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UNITED STATES SENATE, HONORABLE SLADE GORTON
 UNITED STATES HOUSE OF REPRESENTATIVES, HONORABLE DOC
 HASTINGS, WASHINGTON
 PAGE 1 OF 2

Congress of the United States
 Washington, DC 20515
 August 3, 1998

The Honorable Bill Richardson
 Secretary of Energy
 1000 Independence Avenue, SW
 Washington, DC 20585

Dear Secretary Richardson:

Congratulations on being confirmed to your new appointment as Secretary of Energy. Among the many issues you will be facing that deal with our state, this letter pertains to both fiscal responsibility and the economic diversification of the Hanford site.

The Department of Energy (DOE) recently announced it eliminated the Hanford site as an alternative in determining preferred locations for two facilities needed to implement the nation's plutonium disposition strategy. The Savannah River site in South Carolina is the preferred site for a plant to fabricate plutonium into mixed oxide (MOX) fuel, while both the Savannah River site and Pantex Plant in Texas are preferred to build a pit disassembly and conversion plant. The Hanford site was eliminated from consideration in the Environmental Impact Statement (EIS) because, according to DOE, "Hanford's cleanup mission is critical and should remain its top priority."

We do not disagree that cleanup efforts remain the priority at Hanford, however, we fear that the Department's decision is fiscally irresponsible and the decision to eliminate Hanford as an alternative location will most certainly impact the future availability of cleanup funding. Since Hanford has an existing multi-purpose facility known as the Fuels and Materials Examination Facility (FMEF), more than \$500 million could be saved if plutonium disposition activities were located there. Time is critical in reducing the availability of excess weapons-grade materials, therefore utilization of existing facilities would be beneficial in bringing the disposition project on-line.

Last July, as part of the public scoping hearing for the Surplus Plutonium Disposition project, we urged the Department to thoroughly analyze and compare not only each of the possible sites' technical feasibility, but the costs of both capital construction and operations of disposition activities. We asked that the EIS compare and indicate costs of using existing facilities such as those at Hanford versus the construction of new facilities. We also requested the Department address timing considerations and comparisons to bring existing or new facilities on-line and determine the most expeditious and economical way to proceed. It is obvious by the selection of the preferred alternatives that the Department did not consider either costs or timing. Additionally, the EIS does not appear to accurately reflect cost comparisons of the alternatives. This disregard for overall costs of plutonium disposition will be detrimental in attempting to

WAD03

WAD03-1

Alternatives

DOE believes that Hanford's efforts should remain focused on its current high-priority cleanup mission. The importance of cleanup at Hanford was taken into consideration in identifying preferred sites for surplus plutonium disposition activities. However, no decision has been made, and DOE will continue to consider Hanford for surplus plutonium disposition or other programs that are compatible with the Hanford mission, especially in regard to the use of existing facilities.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. This comment has been forwarded to the cost analysis team for consideration. The *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998) report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following sites: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

DOE expects that the time required to build new facilities or to extensively remodel existing facilities would be about the same. At most, it is estimated that the remodeling approach could save a few months of the 3-year construction schedule.

As discussed in Section 1.7.4, Appendix D was deleted because none of the proposals to restart FFTF currently consider the use of surplus plutonium as a fuel source. In December 1998, the Secretary of Energy decided that FFTF would not play a role in producing tritium.

UNITED STATES SENATE, HONORABLE SLADE GORTON
UNITED STATES HOUSE OF REPRESENTATIVES, HONORABLE DOC
HASTINGS, WASHINGTON
PAGE 2 OF 2

obtain sufficient funding levels for this and other important DOE activities, including cleanup at Hanford.

In addition, we are becoming increasingly concerned that this same flawed process of analysis will be used in evaluating the use of the Fast Flux Test Facility (FFTF) for interim or back-up tritium production. Again, using this existing, federally-owned facility has the potential to dramatically reduce federal expenditures, freeing additional resources for what we all agree should be Hanford's principal mission: environmental cleanup. Additionally, coming on the heels of the Department's plutonium disposition decision, we need to emphasize that the Department should not make the mistake of granting one site in the DOE complex all of the new missions. That would ignore the significant advantages of diversification and utilization of existing resources that Hanford offers to the nation and the region. Therefore, we expect the FFTF will be treated fairly in the Department's analysis of tritium production needs.

Please provide us with the cost comparisons of utilizing existing facilities at Hanford versus the construction of new facilities for plutonium disposition. Additionally, we urge you to seriously consider cost and timing factors in determining locations for plutonium disposition in the Record of Decision. Our staffs have access to extensive cost and schedule information, so if there is anything we can do to help with your decision, please let us know.

Sincerely,


SLADE GORTON
United States Senator


DOC HASTINGS
Member of Congress

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WAD03

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 RICHARD E. SANDERSON, WASHINGTON, D.C.
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 WASHINGTON, D.C. 20460

SEP 16 1998

OFFICE OF
 ENFORCEMENT AND
 COMPLIANCE ASSURANCE

Mr. Howard R. Canter
 Acting Director
 Office of Fissile Materials Disposition
 U.S. Department of Energy
 P.O. Box 23786
 Washington, DC 20026-3786

Dear Mr. Canter:

In accordance with the National Environmental Policy Act (NEPA) (42 U.S.C. 4321 *et seq.*) and Section 309 of the Clean Air Act, the Environmental Protection Agency (EPA) has reviewed the Department of Energy Surplus Plutonium Disposition Draft Environmental Impact Statement (SPD EIS). The stated purpose and need for the proposed action is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner.

The SPD EIS addresses the extent to which each of two plutonium disposition approaches [immobilization and conversion to mixed oxide (MOX)] would be implemented and analyzes candidate sites for plutonium disposition facilities, as well as alternative technologies for immobilization. The SPD EIS analyzes 50 metric tons (t) of surplus weapons-usable plutonium, which is primarily in the form of pits, metals, and oxides (p. S-1). The document presents a total of 23 alternatives plus a No Action Alternative that evaluate options for siting, construction, operation, and ultimately decontamination and decommissioning (D&D) of three types of plutonium disposition facilities: a pit conversion facility, an immobilization facility, and a MOX facility. A total of four pit conversion candidate sites, two immobilization candidate sites, and four MOX candidate sites are evaluated. In addition to the presented alternatives, the EIS separately evaluates the establishment of a MOX lead assembly facility at five sites and a postirradiation examination (PIE) facility at two sites. The preferred alternatives (Alternative 3A or 5A) include an immobilization facility at the Savannah River Site (SRS) near Aiken, South Carolina, a MOX facility at SRS, and a pit conversion facility at either SRS or Pantex near Amarillo, Texas. No lead assembly for MOX or PIE site preference is indicated. The preferred alternative stipulates a hybrid disposition method in which approximately 17t would be immobilized in a ceramic form, placed in cans, and embedded in large canisters containing high-level vitrified waste for ultimate disposal in a geologic repository pursuant to the Nuclear Waste Policy Act (NWPA). Approximately 33t would be used to fabricate MOX fuel, which would be irradiated in existing domestic commercial reactors. The resulting spent fuel would be placed in a geologic repository pursuant to NWPA (pp. S-8 and S-9).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
RICHARD E. SANDERSON, WASHINGTON, D.C.

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The EIS provides adequate analysis and appropriate mitigation measures for most of the proposed activities and resource areas that are analyzed except for those discussed below. The models used for air quality impact analysis (ISCST3), radiological impacts (GENII computer code), and accident impacts (MACCS2) are appropriate and were used correctly. Assumptions used in the modeling and impact analyses were consistent with supporting site information, and appropriate given the resource areas and hazardous materials associated with the proposed action. However, the EIS appears deficient in the following areas.

The EIS does not fully analyze all activities that are part of the proposed action or that may affect proposed alternatives and impact analysis. For example, MOX fuel reactor impacts, and impacts from transuranic (TRU) waste processing to meet Waste Isolation Pilot Plant (WIPP) waste acceptance criteria at Los Alamos National Laboratory (LANL).

The EIS obscures the central choice of what do with the plutonium (dispose all or dispose some and convert remainder to MOX) with a proliferation of alternatives and subalternatives. It has exhaustive analysis of certain details, but does not address other relevant issues, or refers to other studies for key pieces of information. To make the environmental choices clear, the EIS needs to include a focused comparison of the alternatives that DOE favors (#3a-Use SRS for pit disassembly, plutonium conversion and immobilization and MOX fuel fabrication or #5a-Do pit disassembly at Pantex, everything else at SRS) with the parallel options that dispose of all the plutonium and do not create MOX. (Alternatives 12a and 12c). This should include a lifecycle analysis of the flow of material to and through the DOE operations and, in the case of MOX fuel, through commercial reactors to temporary storage to disposal.

The analysis of these key alternative (e.g., 3a versus 12a) should assemble all the relevant information including costs and the consequences of disposal of the fuel. To leave these as separate studies to be completed later (see page 1-5) is to leave the public, outside commentators, and perhaps even DOE decision-makers with limited ability to view the larger picture before a decision must be made.

There is insufficient analysis of the impacts of the use of MOX fuel at commercial reactors, both in terms of economic impacts on the commercial reactor fuel market, and impacts of on-site storage of spent MOX fuel assemblies at commercial reactors. The SPD EIS should include an analysis of the economic impacts of the use of MOX as substitute fuel. The following statement in the introduction is unclear: "A number of commentators expressed concern over the market viability of alternative reactor fuels, even though MOX fuel would not be sold on the open market" (page 1-5). We believe that the use of 33 tons of plutonium to make MOX fuel for use in reactors will have some displacement effect even if it is given away and not sold.

We believe that the data presented do not fully support the selection of the DOE preferred option. The analysis suggests that the environmental impacts of converting part of the plutonium to MOX are consistently greater than disposing of all the metal. Transuranic (TRU) and Low Level Waste (LLW) are about 10% greater, human health risks are slightly greater, the distance that material must travel is 65% greater. Costs are not presented, and the foreign affairs benefits are vague, presumably because of security or diplomatic concerns. Given this, it is important that

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FD325

FD325-1

General SPD EIS and NEPA Process

DOE acknowledges the commentor's views and has revised this SPD EIS in response to comments. Section 4.28 was revised to include the potential environmental impacts of operating Catawba, McGuire, and North Anna, the reactors that would use the MOX fuel. Section 4.27.4.2 was revised to provide further details on TRU waste management at LANL based on information from the *Site-Wide Environmental Impact Statement for Continued Operation of the Los Alamos National Laboratory* (DOE/EIS-0238, January 1999). DOE believes that this EIS reflects a thorough analysis of the environmental impacts of those activities involved in implementing the proposed action.

FD325-2

General SPD EIS and NEPA Process

One of the key decisions of this SPD EIS is siting the proposed surplus plutonium disposition facilities in accordance with decisions made in the *Storage and Disposition PEIS*. DOE believes that the range of alternatives meets the letter and spirit of NEPA and 40 CFR 1502.14. The level of detail is consistent among all of the alternatives. DOE believes that all relevant issues have been addressed, and that the inclusion of information by reference has been done in accordance with 40 CFR 1502.21. An even comparison was provided of all the alternatives, not just the preferred alternatives, to comply with 40 CFR 1502.14(b). Each alternative includes a life-cycle environmental/operational analysis for the proposed action. The analysis of the alternatives includes the impacts of using the MOX fuel in a domestic, commercial reactor and the impacts of storing the MOX spent fuel after it is removed from the reactor. The additional spent fuel would be a very small fraction of the total that would be managed at the potential geologic repository. This SPD EIS assumes, for the purposes of analysis, that Yucca Mountain, Nevada, would be the final disposal site for all immobilized plutonium and MOX spent fuel. As directed by the U.S. Congress through the NWPA, as amended, Yucca Mountain is the only candidate site currently being characterized as a potential geologic repository for HLW and spent fuel. DOE has prepared a separate EIS, *Draft Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada* (DOE/EIS-0250D, July 1999), which analyzes the environmental impacts from construction, operation and

monitoring, related transportation, and eventual closure of a potential geologic repository. The MOX spent fuel is included in the inventory analyzed in that draft EIS should the decision be made to proceed with the hybrid or immobilization-only approaches.

A comparison of the preferred alternative (Alternative 3) and the immobilization-only alternative (Alternative 12A) at SRS is provided in the table below.

Section 2.3.1 of the SPD Draft EIS explained that a range of 23 reasonable alternatives remained after evaluating over 64 options against three screening criteria: worker and public exposure to radiation, proliferation concerns due to transportation of materials, and infrastructure cost. These 23 reasonable alternatives were evaluated in the SPD Draft EIS. After the Draft was issued, DOE eliminated as unreasonable the 8 alternatives that would involve use of portions of Building 221-F with a new annex at SRS for plutonium conversion and immobilization, thereby reducing the number of reasonable alternatives to the 15 that are analyzed in the SPD Final EIS. This SPD EIS analyzes the potential environmental impacts associated with implementing the proposed surplus plutonium disposition activities at the candidate sites. The results of these analyses, presented in Chapter 4 of Volume I and summarized in Section 2.18, demonstrate that the activities would likely have minor impacts at any of the candidate sites.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS and Washington, D.C. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

Comparison of Alternative 3 with Alternative 12A at SRS

Summary of Impacts	Alternative	
	3	12A
Air quality		
(Incremental pollutant concentrations in $\mu\text{g}/\text{m}^3$)^a		
Carbon monoxide	0.37	0.246
Nitrogen dioxide	0.0634	0.0529
PM ₁₀	0.00423	0.00364
Sulfur dioxide	0.124	0.0852
Waste management (m³)^b		
TRU	1800	1500
LLW	2400	1700
Mixed LLW	50	20
Hazardous	940	910
Employment (direct)^c		
Construction	1968	1196
Operations	1120	751
Land disturbance (ha)^d		
Construction (workforce)	32	20
Human health risk (dose in person-rem)^e		
Construction (workforce)		
Dose	4.1	2.9
LCFs	1.6×10^{-3}	1.2×10^{-3}
Operations		
Dose		
Public	1.8	1.6
Workers	456	446
LCFs		
Public	9.0×10^{-3}	8.0×10^{-3}
Workers	1.8	1.8
Facility accidents^f		
Tritium release at pit conversion facility	5.0×10^{-2}	5.0×10^{-2}
Transportation^g		
LCFs	8.1×10^{-2}	0.152
Traffic fatalities	5.3×10^{-2}	8.1×10^{-2}
Kilometers traveled (millions)	4.3	4.4
Additional risk of LCFs at Pantex	8.3×10^{-2}	8.3×10^{-2}

^a Values represent the incremental criteria pollutant concentrations associated with surplus plutonium disposition operations for the annual averaging period for nitrogen dioxide, particulate matter with an aerodynamic diameter smaller than or equal to 10 microns (PM₁₀), and sulfur dioxide, and for the 8-hr averaging period for carbon monoxide.

^b Values are based on a construction period of approximately 3 and 10 years of operation.

^c Values are for the peak year of construction for each site and for the annual operation of all facilities for each alternative.

^d Values represent the total land disturbance at each site from construction and operations.

^e Values for Alternative 1 represent impacts over 50 years of operation under No Action. Those for the remaining alternatives are for the period of construction and 10 years of operation. Public dose values represent the annual radiological dose (in person-rem) to the population within 80 km (50 mi) of the facility for the year 2030 under Alternative 1, or for 2010 under Alternatives 2 through 12. Worker dose values represent the total radiological dose to involved workers at the facility (in person-rem/year). Public LCFs represent the 50-year LCFs estimated to occur in the population within 80 km (50 mi) for the year 2030 under Alternative 1, or the 10-year LCFs estimated to occur for the year 2010 under Alternatives 2 through 12. Worker LCFs represent the associated 50- or 10-year LCFs estimated to occur in the involved workforce.

^f The most severe design basis accidents (based on 95 percent meteorological conditions) is used to obtain the population LCF.

^g For alternatives that involve more than one site, the transportation impacts for the entire alternative are shown in the first site listed in the alternative. LCFs are from the radiological exposure associated with incident-free operation, radiological accidents, and fatalities expected as a result of vehicle emissions. Traffic fatalities are from nonradiological vehicle accidents. LCFs at Pantex are associated with repackaging requirements if the pit conversion facility is located elsewhere.

Key: LCF, latent cancer fatality; LLW, low-level waste; TRU, transuranic.

FD325-3**MOX Approach**

Section 4.28 was revised to discuss the effect of displacing normal commercial reactor fuel with MOX fuel at the proposed reactors. The MOX facility would produce nuclear fuel that would displace LEU fuel that utilities would have otherwise purchased. If the effective value of the MOX fuel exceeds the cost of the LEU fuel that it displaced, then the contract provides that money would be paid back to the U.S. Government by DCS based on a formula included in the DCS contract.

The impacts of onsite storage of MOX spent fuel assemblies from the time they are removed from the reactor until they are sent to a potential geologic repository are analyzed in Section 4.28. MOX fuel would be handled the same as other fuels with regard to pools and dry casks. MOX fuel assemblies would be the same size and shape as the LEU fuel for the specific reactor. The only difference would be the additional decay heat from the higher actinides, especially americium, in the MOX fuel. Dry casks are designed and certified for a maximum heat load, so the additional decay heat would contribute to the total heat load and not require any redesign. The additional heat load may result in less spent fuel stored per cask. A more likely option is that the MOX fuel would be selectively packaged with cooler LEU fuel to obviate any overall heat output restriction. As a result, DOE does not expect any changes in the cask design. An amendment to the Certificate of Compliance for the cask, and the reactor operating license, would be needed to include storage of MOX fuel assemblies. DCS intends to leave the MOX fuel assemblies in the reactors for a full cycle.

The statement in Section 1.4 concerning the market viability of alternative reactor fuels was revised to clarify the commentors' views. With regard to the concern about the displacement effect of MOX fuel sold on the open market, it is not expected to have a significant impact. Only 6 of the 110 operating reactors in the United States are proposed to use MOX fuel. In those six reactors, only 40 percent of the core would be MOX fuel.

The SPD Final EIS was not issued until the proposed reactors had been identified and the public had an opportunity to comment on the reactor-specific information. As part of the procurement process, bidders were asked

to provide environmental information to support their proposals. This information was analyzed in an Environmental Critique prepared for the DOE source selection board prior to award of the MOX fuel fabrication and irradiation services contract. DOE then prepared an Environmental Synopsis on the basis of the Environmental Critique, which was released to the public as Appendix P of the *Supplement to the SPD Draft EIS* in April 1999. This *Supplement* included a description of the affected environment around the three proposed reactor sites, and analyses of the potential environmental impacts of operating these reactors using MOX fuel (Sections 3.7 and 4.28 of this SPD EIS, respectively). During the 45-day period for public comment on the *Supplement*, DOE held a public hearing in Washington, D.C., on June 15, 1999, and invited comments. Responses to those comments are provided in Volume III, Chapter 4.

FD325-4

Alternatives

The selection of a preferred alternative by the decisionmaker was based on a large number of factors, including environmental impacts. The environmental impacts of dispositioning different amounts of surplus plutonium, using different technologies, are among the impacts that would have to be taken into consideration in making a decision on where to site the proposed surplus plutonium disposition facilities. The cost of implementing each of the alternatives has been determined and is available to the decisionmaker and the public. The nonproliferation aspects of the proposed action are also the subject of a separate document, *Nonproliferation and Arms Control Assessment of Weapons-Usable Fissile Material Storage and Excess Plutonium Disposition Alternatives* (DOE/NN-0007, January 1997), which is available to the decisionmaker and the public. Section 1.6 was revised to provide further information regarding the preferred alternatives.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
RICHARD E. SANDERSON, WASHINGTON, D.C.
PAGE 7 of 14

the analysis address omitted environmental effects such as fuel disposal (given that MOX has somewhat different chemical and physical properties than typical reactor fuel) and provide a more complete picture of the tradeoffs involved.

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The overall analysis depends on the use of a number of models including MACCS2 for accident occurrence. Under routine operations the effects of the various alternatives are not great. The key is the plausibility of the probabilities of an accident. The figures given are generally quite low. This may be reasonable, but some explanation of the derivation of the figures would be helpful and would increase confidence in the final result.

5

Based upon our review, we have rated the Draft SPD EIS EC-2, Environmental Concerns - Insufficient Information (see attached Summary of the EPA Rating System). This rating reflects our conclusion that the Final EIS should provide additional information, particularly on alternative analysis for MOX fuel assemblies. Our environmental concerns are based upon the effects on water and ecological resources and the presence of contamination in the existing environment and lack of assurance, based on insufficient information, that the proposed operations, as described, would not lead to further adverse impacts of a similar kind. Our detailed comments are attached.

6

We appreciate the opportunity to comment on the proposed project. If you have any questions or wish to discuss any aspect of our comments, please contact me or Marguerite Duffy of my staff at (202) 564-7148.

Sincerely,



Richard E. Sanderson
Director
Office of Federal Activities



Enclosures

FD325

FD325-5

Facility Accidents

MACCS2 was used to estimate the consequences of the postulated accidents, but not their frequency of occurrence. Appendix K was revised to discuss the basis of accident frequencies and summarizes their development in the supporting data reports or information related to the specific reactors proposed to use MOX fuel.

FD325-6

General SPD EIS and NEPA Process

DOE acknowledges EPA's rating of EC-2 for the SPD Draft EIS and has revised this EIS to include additional information.

U.S. EPA
 Detailed Comments
 Surplus Plutonium Disposition Draft EIS

1. Scope of Analysis

Reference

p. 1-6, Section 1.5
 P. 1-8, Section 1.5
 P. 4-360, Section 4.27.4.2

Comment

The EIS notes (p. 1-6) that additional environmental impact analysis relating to reactor MOX impacts will be included in the Final EIS. The same section of the document also states that R&D activities on potential processes for the disposition of surplus plutonium are ongoing (p. 1-8). Recommend that to the extent that R&D activities alter the proposed action and alternatives, or environmental impact analyses, they should also be included in the final EIS.

7

At each of the sites where TRU waste would be generated (except LANL), facilities are proposed for the processing of the waste to meet WIPP waste acceptance criteria. Potential impacts are then analyzed based on the processing facility. The document states that at LANL the TRU waste processing facilities and location have not been identified and defers to the LANL Site-Wide EIS. Recommend that in the Final EIS environmental impacts for TRU waste processing for WIPP disposal be included based on the information provided in the LANL Site-wide EIS.

8

2. Ecological Resources

Reference

p. 3-77, Section 3.3.8.1.1

Comment

The section states that "Important game animals that reside at INEEL include roughly 30 percent of Idaho's pronghorn antelope population, sage grouse, mule deer, and elk". It is doubtful that 30 percent of the state's population of pronghorn reside at INEEL. This number of pronghorn have been observed to winter there in the past but are migratory and do not reside at the INEEL.

9

Reference

p. 3-78, Section 3.3.8.2.2
 p. 3-117, Section 3.4.8.2.2
 p. 4-319, Section 4.26.2.3.1
 p. 4-325, Section 4.26.3.3.1

Comment

The cited listings of threatened and endangered species and species of concern omit the mention of plant species listed by the states as rare, sensitive, or plant species of special concern.

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FD325

FD325-7

MOX Approach

None of the ongoing R&D activities are expected to have an impact on the proposed action or the environmental impact analyses. This is because the work is primarily engineering development work and not basic or advanced research. As indicated in the revised Section 1.8.1, these activities were analyzed in an environmental assessment, *Pit Disassembly and Conversion Demonstration EA* (DOE/EA-1207, August 1998). After the SPD Draft EIS was issued in July 1998, the environmental assessment and a finding of no significant impact for the pit disassembly and conversion demonstration and other R&D activities were issued in August 1998.

FD325-8

Waste Management

Section 4.27.4.2 was revised to discuss in further detail TRU waste management at LANL based on information from the *Site-Wide Environmental Impact Statement for Continued Operation of the Los Alamos National Laboratory* (DOE/EIS-0238, January 1999). Section 4.32.6.3 was added to discuss the cumulative impacts of waste management at LANL.

FD325-9

Ecological Resources

Section 3.3.8.1.1 was revised to stipulate that 30 percent of Idaho's pronghorn antelope winter at INEEL but do not reside there all year long.

FD325-10

Ecological Resources

Sections 3.3.8.2.2 and 4.26.2.3.1 were revised to include information on sensitive plant species. There are no sensitive plant species listed for Pantex, and the agencies consulted indicated no concerns for impacts to plant habitats. Appendix O was added to provide the results of informal consultations with the respective USFWS regional offices and State equivalent offices for the candidate sites.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 RICHARD E. SANDERSON, WASHINGTON, D.C.
 PAGE 9 of 14

Recommend that the section explain that there are sensitive plant species at the sites however there are no plant species of special concern near the proposed sites at Pantex and INEEL. The impact sections (p.4-319 and 4-325) should indicate that listed or sensitive plant species would not be impacted. The most recent listings of Federally listed threatened and endangered species should be obtained from the USF&WS to ensure accuracy.

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3. Resource Areas

Reference

p. S-21

p. 4-1

pp. 4-311 to 4-336, Section 4.26

Comment

The EIS should provide additional detail and justification for the determination that the proposed actions have no or "minimal" impacts on following resource areas: Geology and Soils, Water Resources, Ecological Resources, Cultural and Paleontological Resources, Land Use and Visual Resources, and Infrastructure. At a minimum, DOE should address how and through what analytical processes such determinations were made. The Additional Environmental Resource Analyses section (pp. 4-311 to 4-336, Section 4.26) provides primarily conclusions and determinations without supporting analysis.

11

4. Relationship to Other Actions and Programs

Reference

pp. 1-10 to 1-12, Section 1.7.1

Comment

The EIS should describe why analysis and decisions made in the Storage and Disposal of Weapons-Usable Fissile Materials Final Programmatic EIS (S&D) PEIS and ROD are being revisited in this document (e.g. immobilization technology assessment). Also, the S&D PEIS identified SRS as the preferred site for the immobilization facility, but this EIS reconsiders this by looking at Hanford. This could be better explained in Section 1.7.1.

12

5. Description of Alternatives

Reference

p. S-3, S-8, S-10

p. 1-4

Comment

The EIS should more clearly present and describe the alternatives under evaluation. The way that the alternatives are presented is somewhat confusing and complicated. There are 23 alternative configurations for siting but most of those alternatives also include another series of alternatives (not presented as alternatives or mentioned in the cover sheet abstract) regarding lead assembly production sites and PIE sites. For example, p. S-3 and p. 1-4 list additional decisions to be made through the EIS on lead assembly production sites, although the EIS states no preference at this time (p. S-10). It is unclear whether the selection of a PIE site from among two alternatives is

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FD325

FD325-11

General SPD EIS and NEPA Process

The qualitative methods used to analyze impacts on these resource areas are documented in Appendix F and discussed in Section 4.1, with impacts discussed in Section 4.26. Where appropriate, analyses were incorporated by reference from the *Storage and Disposition PEIS* or in the case of new information was explained in the revised subsections of Section 4.26.

FD325-12

Purpose and Need

The decisions made in the *Storage and Disposition PEIS* ROD are not being revisited in this SPD EIS. Those decisions were simply the starting point for this site-specific environmental analysis in accordance with 40 CFR 1508.28. The *Storage and Disposition PEIS* allowed DOE to focus on storage and disposition actions that were ripe for decision while excluding other actions (e.g., siting of the disposition facilities) that were not. The choice of a specific immobilization technology was one of those areas that were not ripe for decision and therefore is included in this tiered EIS.

The *Storage and Disposition PEIS* did not identify SRS as the preferred site for the immobilization facility. Both Hanford and SRS were mentioned as possible sites in the Preferred Alternative section. The ROD on that document included a statement of DOE's expectation that the follow-on EIS (this EIS) would identify, as one approach, immobilizing a portion of the surplus plutonium at DWPF using the can-in-canister technology. It was not until the NOI for this EIS that DOE formally made this approach the preferred alternative.

FD325-13

Alternatives

The Cover Sheet Abstract, *Summary*, and Section 1.6 were revised to include a discussion of the preferred alternatives for lead assembly fabrication and postirradiation examination sites. As discussed in response FD325-2, the number of reasonable alternatives for new facilities was reduced from 23 to 15.

among the decisions that the DOE intends to make in the ROD.

13

6. Mitigations

Reference

p. 4-332, Section 4.26.4.4.1

Comment

Many of the mitigations are described in the EIS as ones that "could" be employed, implying that they may help to mitigate impacts but are not formally proposed. Proposed mitigations should be clearly identified as such, both in the EIS and the ROD. In the example referenced, the EIS should be more specific about the direct impacts that are expected if the listed possible mitigations do not occur.

14

7. Purpose and Need

Reference

p. 1-3, Section 1.2

Comment

The EIS should more clearly explain how the preferred alternative(s) clearly meet the stated goals of fewer environmental impacts and improved proliferation resistance.

15

8. MOX Fuel Economic Impacts

Reference

pp. 1-5 to 1-6

p. 4-378, Section 4.28

Comment

The economic impacts on the commercial reactor fuel market of the use of MOX at commercial reactors should be addressed in the EIS. These impacts may have the potential to be significant in nature. DOE should describe the process whereby MOX will be provided to commercial reactors (e.g. sold, provided free) and analyze the resulting impacts on the commercial reactor fuel market.

9. MOX Fuel Storage Impacts

Reference

p. 2-27, Section 2.4.3

p. 2-58, Section 2.17.1

p. 4-378, Section 4.28

3

Comment

The Draft EIS currently defers the impact analysis relating to specific reactors to the Final EIS. This may not give adequate opportunity for the public, interested organizations, and government agencies to have their comments on this analysis addressed in the EIS.

The EIS should analyze the impacts of storage (at least until Yucca Mountain is open) of spent

FD325

FD325-14

General SPD EIS and NEPA Process

This SPD EIS reflects the change suggested by EPA; where appropriate, potential mitigative actions are now part of the proposed action. As discussed in Section 4.26.4.4.1, land disturbance for the preferred alternative at SRS is likely to impact an identified cultural resource eligible for nomination to the National Register of Historic Places. This section was revised to include a statement that the extent of mitigation is being discussed with the South Carolina SHPO, but would likely involve data recovery. Mitigation of this concern would be accomplished before any actions are taken as a result of decisions made in the SPD EIS ROD that could have an adverse affect on cultural resources at SRS.

FD325-15

Purpose and Need

In the SPD EIS ROD, DOE will clearly explain how the selected alternative best meets its needs and will specify related environmental effects and proliferation concerns. This will be done in accordance with 40 CFR 1505.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 RICHARD E. SANDERSON, WASHINGTON, D.C.
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MOX fuel assemblies at commercial reactors. (p. 2-27, Sec. 2.4.3) Issues that should be addressed include whether there is adequate storage capacity at the commercial sites, wet versus dry storage questions (i.e. is dry storage acceptable (may be the only option at many commercial reactor sites) for fuel rods that are "hotter" than usual since MOX will only be irradiated to meet IAEA Spent Fuel Standards). p. 2-58, Sec. 2.17.1 seems to imply pool storage for 6 months. Also, the procedure of only irradiating the MOX fuel assemblies until the IAEA standards are met may generate more spent fuel than usual low-enriched uranium (LEU) (p. 4-378, Sec. 4.28).

3

10. Transportation

Reference

Appendix L
 p. L-23, Section L.6.5

Comment

Transportation analysis in the EIS for all alternatives that require the transport of plutonium pits should address unique security issues (if any) and demonstrate that heightened proliferation resistance will be ensured. Where current DOE transportation methods and carriers are proposed, the EIS should clearly demonstrate that such methods will meet the unique requirements necessitated by transport of weapons grade plutonium spent fuel in order to protect the environment.

16

Reference

p. 2-33, Table 2-3

Comment

Additional waste shipments to WIPP, NTS, and/or Yucca Mountain of TRU, LLW, and mixed-LLW wastes generated at the pit conversion facility, immobilization facility, MOX facility, and lead assembly fabrication facility should be considered in the transportation analysis.

17

11. Health Analysis

Reference

General

Comment

For the human health analysis, the EIS should compare the potential impacts of the proposed actions with applicable DOE, EPA, NRC, and OSHA standards.

18

12. Safety and Emergency Planning

Reference

General

Comment

It appears as though the potentially significant impacts for the proposed actions are in the area of safety. The EIS should discuss the tailored safety and emergency management plans that have been or will be developed to mitigate the impacts of the various accident and disaster events.

19

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FD325-16

Transportation

There are no unique environmental or security issues involved with the transportation of surplus pits. Transportation of special nuclear materials, including fresh MOX fuel, would use DOE's SST/SGT system. As described in Appendix L.3.2, this involves having couriers that are armed Federal officers, an armored tractor to protect the crew from attack, and specially designed escort vehicles containing advanced communications and additional couriers. Since the establishment of the DOE Transportation Safeguards Division in 1975, the SST/SGT system has transported DOE-owned cargo over more than 151 million km (94 million mi) with no accidents causing a fatality or release of radioactive material. The transportation requirements for the surplus plutonium disposition program are evaluated in this SPD EIS. The proliferation resistance of shipping pits is addressed in a separate document, *Nonproliferation and Arms Control Assessment of Weapons-Usable Fissile Material Storage and Excess Plutonium Disposition Alternatives* (DOE/NN-0007, January 1997), which has been provided to the public and is available to the decisionmaker.

FD325-17

Transportation

Transportation analyses and potential cumulative impact analyses of shipping TRU, LLW, and mixed LLW are discussed in the Transportation sections in Chapter 4 of Volume I. As described in response FD325-2, this SPD EIS assumes, for the purposes of analysis, that Yucca Mountain, Nevada, would be the final disposal site for all immobilized plutonium and MOX spent fuel.

FD325-18

Human Health Risk

This SPD EIS compares potential impacts of the proposed actions with applicable DOE, EPA, and NRC standards. DOE worker dose standards (e.g., 10 CFR 835, *Occupational Radiation Protection*) are presented in conjunction with all the Involved Worker Impact tables throughout Chapter 4 of Volume I. DOE public dose standards (e.g., DOE Order 5400.5, *Radiation Protection of the Public and the Environment*) are presented in Section 4.32. EPA standards such as those established pursuant to the Clean Air Act and the Safe Drinking Water Act are also presented and discussed in Section 4.32. Comparisons with applicable NRC standards are given in Section 4.28 for the

specific reactors selected to use MOX fuel. In regard to OSHA chemical exposure standards, there are no additional impacts of this type anticipated for workers associated with the proposed actions.

FD325-19

Facility Accidents

As discussed in the Emergency Preparedness sections of Chapter 3 of Volume I, each candidate site has an established emergency management program that would be activated in the event of an accident. Based on the decisions made in the SPD EIS ROD, site emergency management programs would be modified to consider new accidents not in the current program.

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13. Noise Impacts

Reference

p. 4-47, Section 4.4.1.1
 pp. 4-329 to 4-332
 Appendix F

Comment

The conclusions regarding potential noise impacts for the various alternatives do not appear to be supported by analysis and modeling. For example see SRS impacts at p. 4-47, Sec. 4.4.1.1 and pp. 4-329 to 4-332.

20

14. Event Probabilities

Reference

p. 4-60, Section 4.4.2.6
 p. 4-55, Section 4.4.2.5

Comment

The DEIS uses frequency and probability of certain events in the analysis without a description of the methodology used in determining the frequency and probability of those events. For example, the probability of more severe accidents than those described on p. 4-60 is stated as "1 chance in 10 million per year" and the frequency of the described earthquake on p. 4-55 is "1 in 100,000 and 1 in 10,000,000 per year".

21

15. Site Specific

EPA Region IX review of the SPD EIS focused on a possible Mixed Oxide Fuel (MOX) lead assembly at Lawrence Livermore National Laboratory (LLNL). Page 1-10 of the DEIS states that, at this time, DOE does not have a preference (preferred alternative) for the location of a lead assembly or a Postirradiation facility (PIE). In the FEIS, DOE should identify its preferred alternative for the lead assembly facility and a PIE facility. EPA, Region IX, has rated the section of the DEIS devoted to LLNL as EC-2-- environmental concerns, insufficient information. Our concerns are based on the presence of contamination in the existing environment at LLNL and lack of assurance, based on insufficient information, that the proposed operations, as described, would not lead to further adverse impacts of a similar kind.

22

The Superfund Division provided background information regarding Lawrence Livermore. The main facilities and a separate location, area 300, are both nationally listed, federal, Superfund sites. Under the Council on Environmental Quality (CEQ) Regulations at 40 CFR 1502.15, the EIS should describe the environment of the area(s) to be affected or created by the alternatives under consideration. Similarly, an EIS should describe cumulative impacts which are defined at 40 CFR 1508.7 as including impacts from past actions. In the case of LLNL, plutonium anomalies have been found in soils within Big Trees Park, adjacent to the facilities. The site is currently being investigated and the source or mode of plutonium deposition is at this point yet to be determined. The FEIS should provide additional background information on the existing

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FD325-20

Air Quality and Noise

Discussions and conclusions regarding traffic noise impacts along routes used to access the site are based on analysis of the projected changes in employment at the sites and the number of materials shipments associated with each alternative. Discussions and conclusions regarding onsite noise sources and their effect on the public are based on the types of noise sources prevalent during construction and operation, the distance from the facility area to the site boundary, and construction and operation activities typical of these sites. DOE expects that there would be some disturbance of wildlife during construction, especially where new facilities require the expansion of an existing facility fence line. Noise disturbance of wildlife during normal operation would be similar to impacts from existing activities at these facilities, except that impacts could be greater where new facilities require the expansion of an existing facility fence line. As discussed in the appropriate Air Quality and Noise sections in Chapter 4 of Volume I, it is unlikely that any threatened or endangered species would be affected by noise from construction or operation of these facilities because none are known to occur within the immediate vicinity of the proposed site locations.

FD325-21

Facility Accidents

The methodology and estimated frequency for accidents that are summarized in Chapter 4 of Volume I are provided in Appendix K.1.5.1 and cited technical support documents. The methodology and estimated frequency for the transportation accidents that are summarized in Chapter 4 are provided in Appendix L.6.3. These appendixes contain detailed discussions of the analysis methodologies, summaries of the source terms used to prepare the analyses, and listings of source documents.

FD325-22

Lead Assemblies

Section 1.6 was revised to include the preferred alternatives for lead assembly fabrication and postirradiation examination. Sections 3.6.3.2 and 3.6.4.2 were revised to include information on Superfund sites at LLNL and LANL, respectively. Section 4.32 was revised to include a discussion of the cumulative impacts at LLNL and LANL.

contamination, in the context of providing assurance to the public that the Proposed Action would not result in additional contamination. Even if reference documentation is provided, the FEIS should provide additional narrative general background information regarding the Superfund site.

22

16. Cumulative Impact

The cumulative impact section of the document is quite brief and appears to de-emphasize the various problems that have historically occurred at the various discussed facilities. Cumulative impacts include incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions (40 CFR 1508.7). Major past or current impacts are discussed under "affected environment"- Chapter 3; however, these impacts (e.g., ground water contamination at Hanford) should be summarized, perhaps in table/matrix format within chapter 4. Chapter 4 should identify the potential affected resources, a geographical area for analysis (scale is resource specific), and expected cumulative impacts. We refer the DOE to the recently completed CEQ guidance entitled *Considering Cumulative Effects*, for ways it can enhance and provide a more meaningful cumulative impacts analysis.

23

17. Radionuclide National Emission Standards

Table 5-1 addresses the National Emission Standards for Hazardous Air Pollutants (NESHAP) (NESHAP) (40 CFR Part 61) but does not discuss the criteria under which the facility would need to apply for permission to construct or modify their operation. While it is unlikely that LLNL would have to formally apply, we would request that LLNL (or another proposed facility) provide EPA with its radionuclide NESHAP review prior to commencing operation.

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Cumulative Impacts

DOE considered CEQ guidance in development of the cumulative impacts analyses. The cumulative impacts presented include the incremental impacts of operation of the proposed surplus plutonium disposition facilities and the impacts of other past, present, and reasonably foreseeable actions at or near the candidate sites. Those resource areas that would not be impacted as resources of concern are not discussed in the Cumulative Impacts section; therefore, DOE has not developed a table. For each candidate site, past environmental problems that bear on the proposed action are recognized and discussed.

FD325-24

DOE Policy

The lead assembly fabrication site would provide EPA with its radionuclide NESHAP review prior to commencing operation.

Hello, this is Patricia Birnie in Tucson, Arizona. I just called previously to request a DEIS on MOX. I also wanted to request that a hearing be placed for this in Phoenix, Arizona since the Palo Verde Reactors are probably at the top of the DOE list of possible reactors for using MOX fuel. It would seem to be appropriate and a courtesy to local residents in our area that you would assign a hearing, public hearing to be in Phoenix, Arizona. You have my name and address from the previous request for the DEIS but I would like to record this request for a hearing in Phoenix. Thank you, bye.

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PD003

PD003-1

General SPD EIS and NEPA Process

DOE acknowledges the commentor's request for a public hearing in Phoenix, Arizona. Because the proposed reactors were not known at the time the SPD Draft EIS was published, DOE issued the *Supplement to the SPD Draft EIS* in April 1999. The *Supplement* included a description of the affected environment around the three proposed reactor sites, and analyses of the potential environmental impacts of operating these reactors using MOX fuel (Sections 3.7 and 4.28 of this SPD EIS, respectively). The proposed reactors are Catawba Nuclear Station Units 1 and 2 in South Carolina, McGuire Nuclear Station Units 1 and 2 in North Carolina, and North Anna Power Station Units 1 and 2 in Virginia.

During the 45-day period for public comment on the *Supplement*, DOE held a public hearing in Washington, D.C., on June 15, 1999, and invited comments. After careful consideration of its public involvement opportunities, including the availability of information and mechanisms to submit comments, DOE decided not to hold additional hearings on the *Supplement*. DOE provided other means for the public to express their concerns and provide comments: mail, a toll-free telephone and fax line, and the MD Web site. Also, at the invitation of a South Carolina State Senator, DOE attended and participated in a public meeting held on June 24, 1999, in Columbia, South Carolina.

The *Supplement* was mailed to those stakeholders who requested it as well as to those specified in the DOE *Communications Plan* (i.e., Congressional representatives, State and local officials and agencies, and public interest groups around the United States) and the utilities' contact lists. The utilities, Duke Power Company and Virginia Power Company, would operate the proposed reactors (located in North Carolina, South Carolina, and Virginia) should the MOX approach be pursued per the SPD EIS ROD. Further, interested parties would likely have the opportunity to submit additional comments during the NRC reactor license amendment process.

GE STOCKHOLDERS' ALLIANCE
PATRICIA T. BIRNIE
PAGE 1 OF 6



September 14, 1998

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Affiliations for Identification
Purpose Only

Dear Officials:

We have reviewed the SPD EIS, dated July 1998, and wish to make the following comments.

The purpose of the SPD is to reduce the threat of nuclear weapons proliferation by making surplus weapons-usable plutonium inaccessible and unattractive for re-use "in an environmentally safe and timely manner". The goal is commendable, and as such should be implemented as quickly as possible, and with the minimum of transportation of the materials (for safety, less environmental exposure, and minimal access to theft).

While the text stated, "DOE will base the following decisions on the analytical results of this SPD EIS and other cost, schedule, and nonproliferation considerations..." I was unable to find any cost comparisons discussed or tabulated in this report. It would have been helpful to have had this information included, and not in the separate report indicated in this document.

The purpose of the SPD is not for any "economic benefit" of using the plutonium as fuel for commercial reactors since the NAS and other studies document that plutonium fuel would be far more expensive than the present LEU now so readily available at very low cost. With electric utility competition (deregulation) being implemented in this country, already several reactors are being permanently shut down because of their excessive cost in comparison to other methods of generation. It would be a waste of taxpayer money to subsidize the expensive reactors' retrofits, maintenance and security costs for utilizing the MOX fuel. Not choosing the MOX option would also avoid the cost of building MOX fabrication plants and reduce the necessity to transport the toxic material in the public domain.

We find it objectionable for the DOE to reserve the option to use some of the surplus plutonium as MOX fuel in Canadian Deuterium Uranium (CANDU) reactors, for all of the above reasons, and in addition, we

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FD317

FD317-1

Cost

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

FD317-2

MOX Approach

DOE acknowledges the commentator's opposition to the MOX approach. Use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. The MOX facility would produce nuclear fuel that would displace LEU fuel that utilities would have otherwise purchased. If the effective value of the MOX fuel exceeds the cost of the LEU fuel that it displaced, then the contract provides that money would be paid back to the U.S. Government by DCS based on a formula included in the DCS contract. The commercial reactors selected for the MOX approach include only those reactors whose operational life is expected to last beyond the life of the surplus

consider it unwise to join limited international agreements between countries over whose internal policies we have no control, when fissile materials disposition is the focus. We have difficulty supporting a process (MOX fuel use) that bridges the traditional separation between military and civilian uses of nuclear materials. Since Russia is "broke", the U.S. is likely to finance whatever disposition takes place in Russia. It would be to our economic and political interest to advocate and promote the immobilization-only option of disposition for Russia as well as the U.S.

3

In the discussion of air quality, the report was not clear whether depleted uranium hexafluoride would be involved in the pit conversion or immobilization processes. Two charts indicated the gaseous fluoride standards at SRS and Hanford (not Pantex or INEEL). And another section indicated that ceramic immobilization requires the use of uranium dioxide (obtained from depleted uranium hexafluoride). But nowhere did I find any charts or discussion as to air pollutants to include hexafluoride. Since hexafluoride is a very toxic compound, I want to make sure this was not overlooked.

4

I have several questions in regard to Accident Scenarios for the various locations.

1) The text stated that an aircraft crash scenario was discussed only for the Pantex facility (because calculations of frequency of expected crashes at all the other sites was too low). I strongly believe that an aircraft crash is a possible source of terrorist activity at each of the sites, even though those locations may not be near regularly scheduled flights. Therefore, it seems appropriate to consider an aircraft crash at each location as a possibility, especially now that terrorism is currently a greater threat.

5

2) Even though the SRS is perhaps 90 miles inland, I wonder if hurricane damage has been considered as a threat to the facility? This was not mentioned in the text.

6

3) I found no reference to potential tornado damage being considered as an accident scenario for the Pantex site (which is located in the heart of tornado country).

From the point of view of proximity to supporting facilities, it would appear to me that the SRS site would require the least overall transportation of materials, once the plutonium pits had been shipped to SRS. SRS also appears to have the largest pool of potential workers for both construction and operation of the facilities.

7

It seems logical for the can-in-canister method of immobilization to be chosen as the preferred method of immobilization, from the standpoint of fewer workers required, and lower waste volumes than the homogenous ceramic immobilization or the homogeneous vitrification technology previously evaluated.

8

We strongly recommend that the DOE conduct SPD EIS reviews at each of the candidate reactor sites, and conduct public hearings at each of these sites before choosing any reactor complex for

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FD317

plutonium disposition program. DCS would pay for spent fuel disposal in the same manner as LEU spent fuel as well as the ultimate D&D of the reactors.

DOE has identified as its preferred alternative the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in weapons again.

Transportation would be required for both the immobilization and MOX approaches to surplus plutonium disposition. Transportation of special nuclear materials, including fresh MOX fuel, would use DOE's SST/SGT system.

FD317-3

Nonproliferation

In the SPD Draft EIS, DOE retained the option to use some of the surplus plutonium as MOX fuel in CANDU reactors, which would have only been undertaken in the event that a multilateral agreement were negotiated among Russia, Canada, and the United States. Since the SPD Draft EIS was issued, DOE determined that adequate reactor capacity is available in the United States to disposition the portion of the U.S. surplus plutonium that is suitable for MOX fuel and, therefore, while still reserving the CANDU option, DOE is no longer actively pursuing it. However, DOE, in cooperation with Canada and Russia, proposes to participate in a test and demonstration program using U.S. and Russian MOX fuel in a Canadian test reactor. A separate environmental review, the *Environmental Assessment for the Parallex Project Fuel Manufacture and Shipment* (DOE/EA-1216, January 1999), analyzes the fabrication and proposed shipment of MOX fuel rods for research and development activities involving the use of limited amounts of U.S. MOX fuel in a

Canadian test reactor. A FONSI was signed on August 13, 1999. Both of these documents can be viewed on the MD Web site at <http://www.doe-md.com>. If a decision is made to dispose of Russian surplus plutonium in Canadian CANDU reactors in order to augment Russian's disposition capability, shipments of the Russian MOX fuel would take place directly between Russia and Canada.

The *Joint Statement of Principles* signed by Presidents Clinton and Yeltsin in September 1998 provided general guidance for achieving the objectives of a future bilateral agreement to disposition surplus plutonium in the United States and Russia. Sensitive negotiations between the two countries have indicated that the Russian government accepts the technology of immobilization for low-concentration, plutonium-bearing materials, but that the MOX approach would be considered for higher-purity feed materials.

DOE acknowledges the commentor's opposition to the commercial use of weapons-usable plutonium. The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. Converting the surplus plutonium into MOX fuel and using it in domestic, commercial reactors is an effective way to accomplish this. Consistent with the U.S. policy of discouraging the civilian use of plutonium, a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation would be a once-through cycle with no reprocessing irradiation.

FD317-4

Air Quality and Noise

Depleted uranium hexafluoride would be converted to depleted uranium dioxide at a commercial conversion facility (see Section 1.5). Depleted uranium dioxide would be used as feed material for the ceramic immobilization option and in the MOX facility. Section 4.30.3 analyzes the conversion of depleted uranium hexafluoride, from a representative site (Portsmouth), to uranium dioxide, which would be used as feedstock for immobilization and MOX fuel fabrication. No air pollutant emissions of gaseous fluorides are expected from the immobilization facility or the MOX facility.

FD317-5

Facility Accidents

The possibility of an aircraft crash due to intentional terrorist activity is considered to be conjecture, and is not analyzed in this SPD EIS. However, an accidental aircraft crash is analyzed for Pantex, including an estimate of the credible consequences of such an event.

FD317-6

Facility Accidents

Section K.1.3.2 states that because of the robust structure of new plutonium facilities, the only design basis natural-phenomena-initiated accidents with the potential to impact the facility interior are seismic events. Similarly, seismic events also bound the consequences and risks posed by beyond-design-basis natural phenomena. In other words, the surplus plutonium disposition facilities have been designed to withstand natural phenomena, including hurricanes and tornadoes at sites where these phenomena are of concern, such as Pantex, where the frequency of tornadoes is high relative to the other candidate sites.

FD317-7

Alternatives

As indicated in the revised Section 1.6, SRS is preferred for the surplus plutonium disposition facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure.

FD317-8**Immobilization**

DOE acknowledges the commentor's support for the preferred can-in-canister technology for immobilization.

FD317-9**General SPD EIS and NEPA Process**

The SPD Final EIS was not issued until the proposed reactors had been identified and the public had an opportunity to comment on the reactor-specific information. As part of the procurement process, bidders were asked to provide environmental information to support their proposals. This information was analyzed in an Environmental Critique prepared for the DOE source selection board prior to award of the MOX fuel fabrication and irradiation services contract. DOE then prepared an Environmental Synopsis on the basis of the Environmental Critique, which was released to the public as Appendix P of the *Supplement to the SPD Draft EIS* in April 1999. This *Supplement* included a description of the affected environment around the three proposed reactor sites, and analyses of the potential environmental impacts of operating these reactors using MOX fuel (Sections 3.7 and 4.28 of this SPD EIS, respectively). During the 45-day period for public comment on the *Supplement*, DOE held a public hearing in Washington, D.C., on June 15, 1999, and invited comments. Responses to those comments are provided in Volume III, Chapter 4.

GE STOCKHOLDERS' ALLIANCE

PATRICIA T. BIRNIE

PAGE 6 OF 6

Page 3. Office of Fissile Materials Disposition

September 14, 1998

participation in MOX utilization. We feel that this EIS is incomplete for not including this review as part of your report.

9

If immobilization for ALL of the surplus plutonium is chosen, the costs and risks would obviously be much lower since neither the MOX fuel fabrication facility, nor the plutonium polishing process (the report did not say that gallium must be removed for the immobilization process), nor the Lead Assembly fabrication facility would be required, nor would the DOE have to subsidize the chosen reactors' maintenance, operations and enhanced security for the duration of the MOX fuel use. This would save not only money, but would create less environmental pollution, less radioactive waste, and less worker exposure/public exposure, and cost less for eventual decontamination and decommissioning of facilities since fewer facilities would be involved. The report did not state whether the DOE would be responsible for the decommissioning of the reactors chosen for MOX utilization, but I would assume it would be a part of the agreement required by any utility choosing to be a part of the SPD mission.

10

The SPD EIS does not make it clear what the criteria for decisions by the DOE on which method(s)/location(s) will be chosen. If the criteria are: based on common sense, the answer would be obvious: Immobilize ALL of it; based on economics, the answer would be obvious: Immobilize ALL of it; based on least environmental impact, the answer would be obvious: Immobilize ALL of it; based on the greatest public interest, the answer would be obvious: Immobilize ALL of it; but based on politics, special interests and corporate PAC influences, the choices are wide open, but not likely to be in the public interest.

If nuclear disarmament progresses as proponents advocate, there will be great quantities of additional surplus plutonium that will also need disposal. This SPD covers only surplus weapons plutonium disposal. What is to become of the huge and growing quantities of plutonium which has been separated by reprocessing from commercial irradiated fuel...and which may never be used as fuel in commercial reactors?

11

In this report I found no clear delineation of the roles and jurisdictions of the Nuclear Regulatory Commission and the Department of Energy for SPD. This is a crucial matter to be resolved before starting on any part of the process.

12

Respectfully Submitted,

Patricia T. Birnie, Chair

FD317

FD317-10

Alternatives

DOE acknowledges the commentor's support for the immobilization-only approach. The remainder of this comment is addressed in responses FD317-1, FD317-2, and FD317-3.

FD317-11

DOE Policy

U.S. policy dating back to the Ford Administration has prohibited the commercial, chemical reprocessing and separation of plutonium from spent nuclear fuel. Therefore, the United States will not build an inventory of plutonium that has been separated from commercial irradiated fuel. Other nations who do reprocess, however, will produce such plutonium. In his *Nonproliferation and Export Control Policy* (September 1993), President Clinton states that "the United States will maintain its existing commitment regarding the use of plutonium in civil nuclear programs in Western Europe and Japan" even though this country does not encourage the civil use of plutonium.

FD317-12

NRC Licensing

DOE is responsible for implementing the U.S. program for surplus plutonium disposition. DOE would own the proposed non-reactor facilities and would be responsible for operation and regulatory oversight of the pit conversion and immobilization facilities. DCS would operate the MOX facility under an NRC license issued in accordance with 10 CFR 70, *Domestic Licensing of Special Nuclear Material*. All three proposed facilities would be located at DOE sites, and DOE anticipates that the MOX facility would use the site infrastructure. NRC will continue to be responsible for licensing the specific reactors selected to use MOX fuel, and as such would have to approve the use of MOX fuel through the license amendment process. In addition, early in the preparation of the *Storage and Disposition PEIS* and this SPD EIS, DOE invited NRC to be a cooperating agency for the surplus weapons-usable fissile materials program. NRC declined the offer in favor of being a commenting agency. DOE is conducting regular meetings with NRC on the MOX approach, including fuel design and qualification.

ARKANSAS DEPARTMENT OF FINANCE AND ADMINISTRATION
TRACY L. COPELAND
PAGE 1 OF 7



OFFICE OF
INTERGOVERNMENTAL
SERVICES
PHONE: (501) 652-1074
FAX: (501) 682-9209

STATE OF ARKANSAS
DEPARTMENT OF FINANCE AND ADMINISTRATION
P.O. BOX 3278
LITTLE ROCK • 72203

September 4, 1998

U.S. Department of Energy
Office of Fissile Materials
Disposition
P.O. Box 23786
Washington, D.C. 20026-3786

RE: SURPLUS PLUTONIUM DISPOSITION DRAFT ENVIRONMENTAL IMPACT STATEMENT
(SUMMARY) JULY 1998

Dear Sir:

The State Clearinghouse has received the above Document pursuant to the Arkansas Project Notification and Review System.

To carry out the review and comment process, this document was forwarded to members of the Arkansas Technical Review Committee. Resulting comments received from the Technical Review Committee which represents the position of the State of Arkansas are attached.

The State Clearinghouse wishes to thank you for your cooperation with the Arkansas Project Notification and Review System.

Sincerely,

Tracy L. Copeland, Manager
State Clearinghouse

Enclosure
PC: Randy Young, AS&WCC
TLC/msm

0001N

AN EQUAL OPPORTUNITY EMPLOYER

MD154

MD154-1

General SPD EIS and NEPA Process

DOE acknowledges the commentor's review of the SPD Draft EIS.



J. Randy Young, P.E.
Executive Director

Arkansas
Soil and Water
Conservation Commission

101 EAST OAP TOL
SUITE 350
LITTLE ROCK, ARKANSAS 72201

PHONE 501-682-1611
FAX 501-682-3991

MEMORANDUM

TO: Mr. Tracy Copeland
Manager, State Clearinghouse

FROM: J. Randy Young, P.E.
Chairman, Technical Review Committee

SUBJECT: SURPLUS PLUTONIUM DISPOSITION DRAFT ENVIRONMENTAL IMPACT
STATEMENT (SUMMARY) JULY 1998

DATE: August 26, 1998

Members of the Technical Review Committee have reviewed the above referenced project. The Committee supports this project. Agency comments are included for your review.

The opportunity to comment is appreciated.

JRY:smc
Enclosures
cc: Members of the Technical Review Committee

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STATE CLEARINGHOUSE

surplus

An Equal Opportunity Employer

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 TRACY L. COPELAND
 PAGE 3 OF 7



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PHONE (501) 682-1074
 FAX (501) 682-5206

STATE OF ARKANSAS
 DEPARTMENT OF FINANCE AND ADMINISTRATION
 P. O. Box 3278
 MONTICELLO, ARKANSAS 72408

TO: All Technical Review Committee Members
 FROM: Tracy L. Copeland, Manager - State Clearinghouse
 DATE: July 23, 1998
 SUBJECT: SURPLUS PLUTONIUM DISPOSITION DRAFT ENVIRONMENTAL IMPACT STATEMENT(SUMMARY)
 JULY 1998 - NOTE: SHOULD YOU NEED MORE INFORMATION PLEASE CONTACT THE
 PHONE NUMBER IN THIS MATERIAL.

Please review the above stated document under provisions of Section 404 of the Clean Water Act, Section 102(2)(c) of the National Environmental Policy Act of 1969 and the Arkansas Project Notification and Review System.

Your comments should be returned by AUGUST 13, 1998 to - Mr. Randy Young, Chairman, Technical Review Committee, 101 E Capitol, Suite 350, Little Rock, Arkansas 72203.

If we have no reply within that time we will assume you have no comments and will proceed with the sign-off.

NOTE: It is imperative that your response be in to the ASWCC office by the date requested. Should your agency anticipate having a response which will be delayed beyond the stated deadline for comments, please contact Ms. Shani Cable of the ASWCC at 682-1611 or the State Clearinghouse Office.

- | | |
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| <input type="checkbox"/> Support | <input type="checkbox"/> Do Not Support (Comments Attached) |
| <input type="checkbox"/> Comments Attached | <input type="checkbox"/> Support with Following Conditions |
| <input checked="" type="checkbox"/> No Comments | <input type="checkbox"/> Non-Degradation Certification Issues
(Applies to PC&E Only) |

Signature Joseph Kozotick Agency ASWCC Date 8/11/98

0173N

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TRACY L. COPELAND
PAGE 4 OF 7



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P.O. Box 3278
M.F.F.R.A. 87209 M

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JUL 24 1996

EXECUTIVE DIRECTOR'S
OFFICE

TO: All Technical Review Committee Members
FROM: Tracy L. Copeland (Manager - State Clearinghouse)
DATE: July 23, 1996
SUBJECT: SURPLUS PLUTONIUM DISPOSITION DRAFT ENVIRONMENTAL IMPACT STATEMENT(SUMMARY)
JULY 1998 - NOTE: SHOULD YOU NEED MORE INFORMATION PLEASE CONTACT THE
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If we have no reply within that time we will assume you have no comments and will proceed with the sign-off.

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- Support
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- Support with Following Conditions
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Signature Candice Jones Agency Parks - Tourism Date 8/10/98

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PAGE 5 OF 7



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STATE OF ARKANSAS 26 AUG 11 AM 11:42
DEPARTMENT OF FINANCE AND ADMINISTRATION OIL & WATER COMM.
P.O. Box 3278
LITTLE ROCK, AR 72203

TO: All Technical Review Committee Members
FROM: Tracy L. Copeland, Manager - State Clearinghouse
DATE: July 23, 1998
SUBJECT: SURPLUS PLUTONIUM DISPOSITION DRAFT ENVIRONMENTAL IMPACT STATEMENT(SUMMARY)
JULY 1998 - NOTE: SHOULD YOU NEED MORE INFORMATION PLEASE CONTACT THE
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1969 and the Arkansas Project Notification and Review System.

Your comments should be returned by AUGUST 13, 1998 to - Mr. Randy Young,
Chairman, Technical Review Committee, 101 E Capitol, Suite 350, Little Rock,
Arkansas 72203.

If we have no reply within that time we will assume you have no comments and
will proceed with the sign-off.

NOTE: It is imperative that your response be in to the ASWCC office by the
date requested. Should your agency anticipate having a response which
will be delayed beyond the stated deadline for comments, please contact
Ms. Shani Cable of the ASWCC at 682-1611 or the State Clearinghouse
Office.

Support Do Not Support (Comments Attached)
 Comments Attached Support with Following Conditions
 No Comments Non-Degradation Certification Issues
(Applies to PC&E Only)

Signature Reneeth Colbert Agency AFC Date 8/17/98

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PAGE 6 OF 7



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Little Rock, AR 72203

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A.H.T.D.
ENVIRONMENTAL
DIVISION

TO: All Technical Review Committee Members
FROM: Tracy L. Copeland, Manager - State Clearinghouse
DATE: July 23, 1998
SUBJECT: SURPLUS PLUTONIUM DISPOSITION DRAFT ENVIRONMENTAL IMPACT STATEMENT(SUMMARY)
JULY 1998 - NOTE: SHOULD YOU NEED MORE INFORMATION PLEASE CONTACT THE
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Your comments should be returned by AUGUST 13, 1998 to - Mr. Randy Young, Chairman, Technical Review Committee, 101 E Capitol, Suite 350, Little Rock, Arkansas 72203.

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- Support
- Do Not Support (Comments Attached)
- Comments Attached
- Support with Following Conditions
- No Comments
- Non-Degradation Certification Issues (Applies to PC&E Only)

Signature [Signature] Agency ASWD Date 8/1/98

0173N

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ARKANSAS DEPARTMENT OF FINANCE AND ADMINISTRATION
 TRACY L. COPELAND
 PAGE 7 OF 7



OFFICE OF
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STATE OF ARKANSAS

DEPARTMENT OF FINANCE AND ADMINISTRATION
 P.O. Box 3278
 Little Rock, AR 72203

TO: All Technical Review Committee Members
 FROM: Tracy L. Copeland, Manager - State Clearinghouse
 DATE: July 23, 1998
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If we have no reply within that time we will assume you have no comments and will proceed with the sign-off.

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| <input type="checkbox"/> Support | <input type="checkbox"/> Do Not Support (Comments Attached) |
| <input type="checkbox"/> Comments Attached | <input type="checkbox"/> Support with Following Conditions |
| <input checked="" type="checkbox"/> No Comments | <input type="checkbox"/> Non-Degradation Certification Issues
(Applies to PC&E Only) |

Signature: Will V. B... Agency: Ark. Gov. Comm. Date: 7-24-98

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MD154

- ① Comments on DOE/EIS-0283-D Volume 1 Part A
[Melvin S. Coops] 8/20/93
Pages 2-27-231
- 1) Document states "Glove Box Facilities (2-27)", therefore I assume the processes will be largely manual operations.
- 2) ^{240}Pu has a SF T_{1/2} of 1.32×10^4 years (total = 4540 years)
Therefore emits 2,503 fissions/min/gram
6% WGRu = 60 g/Kg = $150 \times 2.5 \text{ n/f} = 375 \text{ n/m/Kg}$ (603 n/Kg) fast neutrons. ^{2.5 MeV}
- 3) Additionally ^{239}Pu emits $1.38 \times 10^4 \text{ n/m/Kg}$ ($2.3 \times 10^{12} \text{ n/Kg}$)
Oxygen emits $\sim 1/2 \text{ n/100x}$ so about $1.5 \times 10^6 \text{ n/s/Kg emitted}$
∴ approx neutron emission per Kg of $\text{PuO}_2 = 10^6 \text{ n/s/Kg}$
these neutrons are fast, about 2.5 MeV energy.
- 4) All elements except Li emit a capture gamma ray ranging from 2.2 MeV (H) to 5.5 MeV (Fe), when absorbing a neutron (capture usually from thermal neutrons).
 Li^6 generates a tritium and helium atom from capture (large resonance at 200 keV) $3\text{Li}^6 + \text{n} \rightarrow \text{Li}^7 + \text{H}^3 + \text{He}^4$ and does not emit a capture gamma ray.
- 5) Heavy concrete walls act as neutron scatterers, and when close to the neutron source, increase the local neutron flux (operating area) by a large value, i.e. experience at RFT showed that operating manual glove boxes with 102 Kg metal WGRu parts, caused workers to receive greater than allowable DOE exposure in 4-5 hours. This situation will be much worse for personnel handling Pu oxide in kilogram quantities.

IDD01

IDD01-1

MOX Approach

DOE acknowledges the commentors concerns about neutron flux to the radiation worker. Dose to the worker will be a primary influence in design of facilities for the surplus plutonium disposition mission. This includes considering the neutron flux that could occur in the material processing and storage areas. DOE will consider the location and spacing of work stations and room walls (including the ceiling and floor), and the use of building and shielding materials that are appropriate to the types and amounts of radiation expected, in order to minimize dose to the worker. Construction and operation of facilities would be in accordance with all applicable regulations and ALARA principles.

The MOX facility described in this SPD EIS is a preconceptual design. It contains all the elements necessary for MOX fuel fabrication in an arrangement that can be used to assess the potential environmental impact of such a facility. As with any construction project, however, this design is subject to modification during the design and construction stage as may be required to optimize equipment placement and process flow. A goal of the facility design is to ensure that worker doses do not exceed an average of 500 mrem/yr and a maximum of 2 rem/yr. A team consisting of Duke Engineering & Services, COGEMA Inc., and Stone & Webster (DCS) has been hired by DOE to design, build, and operate the MOX facility should it be given the go-ahead in the SPD EIS ROD. The design team would review and consider available information on similar facilities to ensure that the MOX facility would incorporate the newest technologies and benefit from previous experience.

(2)

ref: John Hasler - LAX

b) that is one of the reasons that the weapons laboratories store plutonium as metal, not oxide.

other reasons for storing Pu as METAL!!

1. that is the form recovered from weapons
2. the density is 16 or 19.4, not about 5 to 6 for oxide, and is much more compact.
3. No oxide present means no α, n neutrons
4. Can easily remove Am²⁴¹ daughter (from Pu²⁴¹ decay) by vacuum distillation.

7) any MOX facility, especially manned facilities, must have neutron absorbing walls to keep operating neutron fields as low as possible, and the actual process enclosures should be light-weight metal suspended on light wt floors to minimize neutron reflection. Massive walls must be kept away from the operating area to minimize exposure.

8) Wolfgang Stoll (AKA "the Plutonium Pope" in Germany) gave a presentation at LLNL K/86 where he described the flaws in the Siemens MOX facility that prevented even start-up of the facility. The neutron fields in the operating area was a major reason for cancelling operation, this was due to the designer's attempt to minimize cost (facility size) by placing the walls close to the operating glove boxes.

IDD01

3

9) It appears from a description of the proposed US-MOX facility that the designers do not understand the neutron field problem that accompanies work with any alpha emitting oxide material, especially Plutonium oxide (PuO_2). The facility, as described, will simply duplicate the problems encountered by Siemens in Germany and not be operable.

1

10) Other neutron-related problems-

The proposed US facility has Materials Accountability Stations "MAP" adjoining each process area. The simplest and most practical way to quickly analyze Pu content is by "neutron counting" a fixed mass of feedstock. If the area has a high neutron background this is extremely difficult, if not impossible. Also, the detector becomes rapidly activated by the neutron field, and must be discarded (it cannot be rejuvenated). MAP areas depending on neutron emission counting must be located in areas that have a low background if accurate results are to be obtained. These areas can be on an upper floor in an area that is surrounded by lithium-bearing aggregate (Spodumene is a naturally occurring mineral with high Li content).

2

IDD01

IDD01-2

MOX Approach

This SPD EIS does not include a specification of systems or equipment at the individual component level; it only stipulates that certain types of systems or equipment would be included in the facility. The design team would ensure that the design of the MOX facility incorporated appropriate technologies arranged as appropriate for facility needs.

④

- 11) Other obvious flaws in the design—
all toilets are located outside of the main operating areas beyond the security check points and will cause great displeasure to the operating staff. LLNL tried to operate in a similar facility and found that the technicians urinated into bottles that they either carried to the outside facilities at the end of the day, or emptied into the drains leading to the radioactive holding tanks for the internal controlled facility. Neither approach is acceptable. This design is neither practical or necessary. Toilet areas can be included in the RMA operating gallery on raised platforms, with special drains leading to holding tanks for effluent monitoring. This has been done in many SNM handling facilities. Trying to inconvenience the workers to solve a simple ^{sanitary} engineering problem is just plain stupid. It will not be successful.

3

IDD01

IDD01-3

MOX Approach

DOE acknowledges the commentor's concern over the functional design of the MOX facility and appreciates the sharing of professional experience in that regard. However, it is not generally accepted practice to locate sanitary facilities within radiologically controlled areas.

"Hanson Reports"

"The Plutonium Pope" - Wolfgang Stoll (LWL 4/96)
Siemens Pu MOX facility - neutron emission
Stoll is now: Institute for Industrial
Environments, in Germany.

- Spontaneous fission neut. emission 2.5 MeV

Pu^{240} SF $t_{1/2} = 6.32 \times 10^4$ years = 2.503×10^4 fissions/min/gram
total $t_{1/2} = 6540$ years

$(\alpha = 5 \times 10^{14} \text{ fissions/kg})$ $[2.5 \times 10^7 \text{ fissions/kg}]$
 $[M = 1 \times 10^6 \text{ g/kg}]$
 $[E = 2.5 \text{ MeV}]$
 $0 \times 10^6 = \times 3 \text{ or more}$

Pu^{239} $24,100$ year $t_{1/2}$
 $\alpha_{total} = 1.38 \times 10^{14} \text{ fissions/kg}$

atmos: $0^{17} = 0.038\%$, $\sigma_f = 0.24$ barns, $R = 0.11$ ($0.8 = 0.8 \text{ mb}$) $6\% = 1/6$

- Store and Ship as metal John Haschke, LANL

1. Because that is what is in weapons
2. The density is 16 \rightarrow 19.4 (nat 19.0) more compact
3. No oxide present no (α, n)
4. Can remove Am^{241} by vacuum distillation
(Growth from 14-yr Pu^{241})

6 Facility -

- ① needs to have α, n neutron absorption
neutroning reaction neutrons 2.5 MeV \rightarrow then
- ② don't place "MAP" areas near areas where quantities
of PuO_2 reside - activation of GELI detectors, and
high SF gamma background.

EAST BAY PEACE ACTION
DALE NESBITT
PAGE 1 OF 3

*East Bay Peace Action
P.O. Box 6574,
August, 1998
Albany, OR 94706
-0574
RN 143*

Office of Fissile Materials Management
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, D.C. 20585

Dear Department of Energy:

The following undersigned groups are requesting both an extension of the public comment period and additional Public Hearings on the "Draft Surplus Plutonium Disposition Environmental Impact Statement." The SPDEIS is the latest National Environmental Policy Act (NEPA) document that will help shape decisions on how to dispose of up to fifty metric tons of weapons usable plutonium that has been declared surplus to national security needs.

Extend the Public Comment Period for Sixty Days

The Department of Energy is allowing for a sixty day comment period for people to review and provide comments on a large, complex document that references twenty-eight other related NEPA documents, an economic report that not released until July 26, 1998, and numerous "Data Reports."

The Data Reports are unavailable to people who are not near a Department of Energy Reading Room, yet contain crucial information. For example, on page J-4 of the Draft SPDEIS, DOE wrote that, "source term data for radiological releases, stack heights, and release locations are provided in the data reports for the pit conversion, immobilization, and MOX facilities." In other words, the Draft SPDEIS does not contain any data on something as basic as expected quantities of radioactive air pollutants.

Provide for Additional Public Hearings

The Department of Energy is planning only five public hearings, four in the communities closest to DOE sites being considered for new plutonium processing plants, and one regional meeting in a downstream community (Portland). This public hearings schedule will likely dilute the diversity of public comments; inhibit the involvement of downwind and downstream communities that generally bear liabilities without benefits; and skew the public opinion curve in favor of DOE proposals.

DOE should add the following hearings to its list:

1. Regional Hearings in Savannah, Georgia and Columbia, South Carolina. The Savannah River Site is the preferred candidate site for all three new plutonium processing facilities. Real impacts on the Savannah River from SRS operations and accidents are well documented, with the most notable being the December, 1991 tritium leak that quickly reached Savannah, Georgia. DOE cannot justify not holding a regional hearings in the Savannah River region, which will bear the greatest liability from its proposals, while holding one in Portland to discuss why Hanford is no longer preferred for

FD198

FD198-1

General SPD EIS and NEPA Process

DOE believes that the comment period, longer than required by CEQ's NEPA regulations, allowed sufficient time for public review of the SPD Draft EIS. Moreover, comments submitted after the close of the comment period were also considered.

DOE's descriptions of the affected environment and the potential environmental impacts in this SPD EIS are in accordance with 40 CFR 1502.15 and 40 CFR 1502.16. These descriptions are no longer than necessary for an understanding of the effects of the alternatives, and the analyses and data are commensurate with the significance of the impact, the less-important information being consolidated, summarized, or referenced. Resources such as the data reports are available in the public reading rooms at the following DOE locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

FD198-2

General SPD EIS and NEPA Process

It was not possible to hold hearings in all areas of the country; therefore, the hearings were restricted to locations where the greatest impacts of the proposed surplus plutonium disposition facilities could be expected. DOE did, however, provide various other means for public comment on this SPD EIS: mail, a toll-free telephone and fax line, and the MD Web site. During preparation of the *Storage and Disposition PEIS*, regional hearings were held in locations such as Boston, Chicago, San Francisco, and Denver. Denver was included because the PEIS dealt with the removal of materials from RFETS. DOE made, and is honoring, a commitment to get all plutonium out of RFETS. Additional hearings in Denver were not held because the proposed surplus plutonium disposition facilities would not be sited in the area. Shipment of MOX fuel to Canada for testing is under consideration as part of a separate EA, and is not within the scope of this EIS. The *Environmental Assessment for the Parallel Project Fuel Manufacture and Shipment* (DOE/EA-1216, January 1999) and FONSI (August 1999) can be viewed on the MD Web site at <http://www.doe-md.com>.

these liabilities	2
2. Regional hearings in communities near nuclear reactor sites that are being proposed for irradiation of Mixed Oxide (MOX) fuel. Consortia of utilities and nuclear fuel fabricators are scheduled to submit Proposals for MOX Fuel Fabrication and Irradiation Services August 1998. Based on these proposals, DOE can identify potentially affected reactor communities.	
DOE has stated that "environmental impact analysis relating to specific reactors will be included in the SPD Final EIS," although these analyses are scheduled to be made by Consortia in their Proposals. During the 1997 Scoping for the SPDEIS, DOE was repeatedly asked to involve nuclear reactor communities in the NEPA process, yet ignored these comments while moving forward on a process to select reactor sites that excludes community input. DOE cannot justify soliciting public comment for the site selection process for plutonium processing facilities, while excluding public involvement in selecting plutonium irradiation facilities.	3
3. A regional hearing in Denver, Colorado. Denver is in proximity to Rocky Flats where approximately 25% of the surplus plutonium is in storage, so the area has a stake in the decisions being made. Furthermore, DOE has never held hearings to discuss plutonium immobilization of Rocky Flats plutonium as a reasonable alternative, and is proposing to weaken the requirements for shipping plutonium from Rocky Flats to Savannah River Site.	
4. A regional hearing in Dallas, Texas. Dallas is likely to be in the transportation corridor for shipments of special nuclear materials and radioactive waste from new operations. The Department of Energy cannot legitimately claim that state-wide support exists in Texas for Pantex becoming a new DOE plutonium processing site without seeking input from outside the Amarillo area.	2
5. A hearing in Washington D.C., where decisions are made, policy is formulated, and a substantial community of non-governmental organizations exists to monitor the Department of Energy, and where a larger community of organizations exists to monitor how taxpayer dollars are spent.	
6. Port Huron, Michigan (or other location), the location of the border crossing for plutonium fuel shipments to Chalk River, Ontario to test in CANDU reactors. DOE is still considering the option of burning MOX fuel in CANDU reactors, yet has effectively excluded Canadian citizens from the process. The hearing could be a cooperative public event held with the Atomic Energy of Canada, Ltd.	
The abundant uncertainties and recent changes in direction in the Department of Energy's hazardous plutonium disposition program indicates a continued need to subject Federal proposals to the highest and most rigorous levels of public debate possible. DOE has already failed to implement the easiest part of its plutonium storage and disposition program. At Pantex it has abandoned its new "safer" container and a proposed facility upgrade for plutonium pit storage.	4 5
For Rocky Flats plutonium, it is already amending the "Record of Decision" for the "Storage and Disposition of Weapons-Usable Fissile Materials Final Programmatic Environmental Impact Statement" to "address the environmental impact of utilizing the K-Reactor facility for plutonium	6
- 2 -	
FD198	

DOE actively sought public comments on the SPD Draft EIS and distributed approximately 1,700 copies of the document to all interested parties. All comments, regardless of how they were submitted, were given equal consideration.

FD198-3 General SPD EIS and NEPA Process

The SPD Final EIS was not issued until the proposed reactors had been identified and the public had an opportunity to comment on the reactor-specific information. As part of the procurement process, bidders were asked to provide environmental information to support their proposals. This information was analyzed in an Environmental Critique prepared for the DOE source selection board prior to award of the MOX fuel fabrication and irradiation services contract. DOE then prepared an Environmental Synopsis on the basis of the Environmental Critique, which was released to the public as Appendix P of the *Supplement to the SPD Draft EIS* in April 1999. This *Supplement* included a description of the affected environment around the three proposed reactor sites, and analyses of the potential environmental impacts of operating these reactors using MOX fuel (Sections 3.7 and 4.28 of this SPD EIS, respectively). During the 45-day period for public comment on the *Supplement*, DOE held a public hearing in Washington, D.C., on June 15, 1999, and invited comments. Responses to those comments are provided in Volume III, Chapter 4.

FD198-4 General SPD EIS and NEPA Process

Since the inception of the fissile materials disposition program, DOE has supported a vigorous public participation policy. It has conducted public hearings in excess of the minimum required by NEPA regulations on the weapons-usable fissile materials disposition program at various locations around the country, not just near the potentially involved DOE sites, to engender a high level of public dialogue on the program. The office has also provided the public with substantial information in the form of fact sheets, reports, exhibits, visual aids, and videos related to fissile materials disposition issues. It hosts frequent workshops, and senior staff members make presentations to local and national civic and social organizations on request. Additionally, various means of

storage, the possibility that plutonium stabilization would be done at SRS instead of at RFETS, the shipment of plutonium to SRS before the APWF storage vault is operational, the shipment of some materials from RFETS that are less than 50% plutonium, and the need to utilize direct metal casting in FB-Line to de-classify some of the RFETS." (Defense Nuclear Facilities Safety Board Weekly Report for Savannah River Site, June 26, 1998).

pp 343
8-28-98

6

The National Environmental Policy Act requires Federal Agencies to insure that high quality "environmental information is available to public officials and citizens before decisions are made and before actions are taken", and that substantial and meaningful public involvement in the planning and decision process. By restricting public hearings to a few communities, DOE would, at best, be violating the spirit of NEPA.

1

Signed, Dale Nesbitt, Board member, East Bay Peace Action (Sign approved by majority of Board via a telephone poll)

P.S. We urge that a public hearing also be held in the S.F. Bay Area - preferably Oakland. We feel that everyone has a stake in in how Pl is "disposed" off - not just those who live close to the proposed processing sites.

2

communication—mail, a toll-free telephone and fax line, and a Web site (<http://www.doe-md.com>)—have been provided to facilitate the public dialogue. It is DOE policy to encourage public input into these matters of national and international importance.

FD198-5 Storage and Disposition PEIS and ROD

DOE acknowledges the commentor's concern regarding interim and long-term storage of plutonium pits at Pantex. DOE is committed to the safe, secure storage of these pits and is considering additional upgrades to Pantex facilities to address plutonium storage requirements. In addition, DOE has addressed some of the commentor's concerns in an environmental review concerning the repackaging of Pantex pits into a more robust container. This evaluation is documented in the *Supplement Analysis for: Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components-AL-R8 Sealed Insert Container* (August 1998). This document is on the MD Web site at <http://www.doe-md.com>.

FD198-6 Storage and Disposition PEIS and ROD

DOE conducted a supplement analysis for the early movement to and storage of the RFETS surplus plutonium in Building 105-K after modifications to enable safe, secure plutonium storage. Based on this analysis, DOE issued the amended ROD referenced in the comment in the Federal Register (63 FR 43392) on August 13, 1998, in fulfillment of the letter and spirit of NEPA (40 CFR 1506.6(b)). The decision is contingent on a decision under this SPD EIS to locate an immobilization facility at SRS. A copy of the amended ROD and the supplement analysis is available in the DOE reading rooms and on the MD Web site at <http://www.doe-md.com>.

Yes, I would like to express my opposition to using weapons grade plutonium from the military in commercial reactor fuel, for commercial reactor fuel. And I would also like a copy of the environmental impact statement concerning this project. My name is: James Ferrigno. My address is: 118 Miramar Avenue. That's in San Francisco, CA. Zip Code 94112. If you would like to, you can reach me daytime phone 415-334-7963. Thank you.

1

PD004

PD004-1

DOE Policy

DOE acknowledges the commentor's opposition to the commercial use of weapons-usable plutonium. The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. Converting the surplus plutonium into MOX fuel and using it in domestic, commercial reactors is an effective way to accomplish this. Consistent with the U.S. policy of discouraging the civilian use of plutonium, a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation would be a once-through cycle with no reprocessing irradiation.



*IT IS CORRUPT - BADLY - CONSTRUCTED
AND TOTALLY DEVOID OF MERIT* 1
Department of Energy
Washington, DC 20545
PAR

1998-008753 7/28 11:41

To Interested Parties:

The Department of Energy's *Surplus Plutonium Disposition Draft Environmental Impact Statement* (EIS) is now available for public review. The formal public comment period for the draft will begin on July 17, 1998 and will close on September 16, 1998.

If you have not already received a copy of the draft EIS or a summary, you can obtain copies by written request to:

U.S. Department of Energy
Office of Fissile Materials Disposition
P.O. Box 23786
Washington, D.C. 20026-3786

Or by calling 1-800-820-5134.

As part of the formal comment period and pursuant to the National Environmental Policy Act, the Office of Fissile Materials Disposition will hold public meetings at five different locations to solicit written and oral comments on the draft SPD EIS. These meetings are an important component of the Department's continuing efforts to provide the public with meaningful and easily-accessible opportunities to participate in its decision making process.

The public meetings will be held between the dates of August 4, 1998 and September 16, 1998. Two sessions (afternoon and evening) will be held at each location and will include workshops to provide an opportunity for discussion and comment. Preregistration for the meetings is requested. For your convenience, preregistration may be accomplished by fax, electronic bulletin board, or a toll-free telephone number. Please refer to the preregistration form on the back of this letter for specific meeting dates, times, locations, and registration instructions.

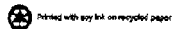
After the comment period on the draft EIS has closed, the Department will evaluate all comments received. The final EIS will incorporate changes to the text and will include responses to all comments. The final EIS will be completed in late 1998 and will be

We welcome your interest in the fissile materials disposition program and look forward to the receipt of your comments and participation in the public meetings.

Sincerely,


Howard R. Carter
Acting Director
Office of Fissile Materials Disposition

Enclosure



FD002

FD002-1

General SPD EIS and NEPA Process

DOE acknowledges the commentor's views on this SPD EIS.

I'm a native of Colorado. I've lived up in the mountains above north Boulder my whole life. I've been around Rocky Flats and I realize that this stuff needs to be placed somewhere. I just don't believe bringing it all the way to the Carolinas through Georgia is the answer. I think that there's plenty of places within this state to stash the stuff safely indeed. And that's my, that's my urge and my hope that it will keep it within the state. Transferring this stuff really bothers me and annoys me. I think it's dangerous to put it on the road. I think we should keep it within the state. It was produced within the state, let's just keep it here.

1

PD061

PD061-1

Transportation

DOE acknowledges the commentor's concern regarding the movement of fissile materials from RFETS to SRS. DOE made, and is honoring, a long-standing commitment to get all plutonium out of RFETS and to expedite closure of the site.

9/16/98

To: Howard Carter, Director Office of Finite Materials Disposition
Re: Surplus Plutonium Disposition DEIS

Again, the question is raised, "What should be done with the plutonium (Pu)?" This woefully inadequate and voluminous document fails to address many important issues. At the top of the list are proliferation concerns with MOX. All the Pu needs to be immobilized. Many issues in the previous PEIS are still very relevant to this DEIS. Transport minimization and the ongoing refusal of DOE to follow its own inadequate transport rules needs some sunshine also.

Only Alternative II would be preferable to the no action Alternative I. Alternative 12 involves way too much cross continental transport. Alternatives II and 12 do however, give the important priority to non-proliferation and immobilization and show that MOX is by no means a done deal. There is a cultural problem at DOE on whether Pu is a liability or an asset or asset to whom. Also there is what the Rocky Flats Federal Grand Jury called a "culture of contempt for the environment" at DOE. The high density of poor minorities at preferred alternative SRS site is also of great concern.

Needs would be best met by a compromise between Alternatives II and 12 including multiple immobilization facilities including Pantex, Hanford, INEEL SRS, and RFETS. Transport must be minimized. Some of these need to be built so that they can be moved, especially at RFETS design should also incorporate immobilization of other nuclear waste. At RFETS there is no need to bring in more nuclear waste. The Spent Fuel Standard need not limit dilution levels in the logs. It is alright to make it less accessible than in spent fuel.

MD238

MD238-1

Nonproliferation

DOE acknowledges the commentator's opposition to the MOX approach to surplus plutonium disposition based on concerns regarding nuclear proliferation. The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. Converting the surplus plutonium into MOX fuel and using it in domestic, commercial reactors is an effective way to accomplish this. Consistent with the U.S. policy of discouraging the civilian use of plutonium, a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation would be a once-through cycle with no reprocessing.

Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

MD238-2

Transportation

DOE acknowledges the commentator's concerns regarding transportation. DOE would follow all applicable DOE orders and NRC and DOT regulations. Transportation of special nuclear materials, including fresh MOX fuel, would use DOE's SST/SGT system. Since the establishment of the DOE

Transportation Safeguards Division in 1975, the SST/SGT system has transported DOE-owned cargo over more than 151 million km (94 million mi) with no accidents causing a fatality or release of radioactive material. The transportation requirements for the surplus plutonium disposition program are also evaluated in this SPD EIS.

MD238-3

Alternatives

Implementation of Alternative 11 or 12, each of which involves immobilization of all the surplus plutonium, would require approximately the same amount of transportation, with the possible exception of transportation of the final form to the potential geologic repository. Since the location of the potential geologic repository has not yet been determined, the distance from the candidate sites to the potential location at Yucca Mountain, Nevada, was used for the analysis. As indicated in Section 1.6, DOE's preferred alternative is the hybrid approach, not continued storage of the surplus plutonium as described as the No Action Alternative or the immobilization-only approach described as Alternatives 11 and 12. As indicated in Section 2.5, the No Action Alternative would not satisfy the purpose of and need for the proposed action because DOE's disposition decisions reflected in the *Storage and Disposition PEIS* ROD would not be implemented.

MD238-4

DOE Policy

DOE considers the existence of surplus plutonium a potential danger. DOE is implementing the President's nonproliferation policy by converting surplus plutonium in an environmentally safe and timely manner, to forms that cannot be reused in weapons again without significant risks, time, and money.

MD238-5

Environmental Justice

DOE acknowledges the commentor's concern regarding the density of poor minorities in the vicinity of SRS. As shown in Chapter 4 of Volume I, implementation of the alternatives for disposition of surplus plutonium at SRS would pose no significant risk to public health regardless of the minority and economic status of individuals in the population. This chapter also includes a separate and specific analysis of the potential impacts on minority or low-income populations. Appendix M describes the process that was used to obtain these impacts.

MD238-6**Alternatives**

Because the implementation of multiple immobilization facilities would be very costly and time-consuming, no such alternative was considered for this SPD EIS. With only 50 t (55 tons) of surplus plutonium to disposition, it would not be practical to construct and operate more than one immobilization facility, even if the decision were made to immobilize all the surplus plutonium. While DOE prefers to minimize the transportation of plutonium that is still desirable for weapons use, plutonium is routinely and safely transported in the United States. As described in Appendix L.3.3, transportation of nuclear materials would be performed in accordance with all applicable DOT and NRC transportation requirements. Interstate highways would be used, and population centers avoided, to the extent possible.

All shipments of surplus plutonium that had not been converted to a proliferation-resistant form would use DOE's SST/SGT system. The transportation analysis results are presented for each alternative in Chapter 4 of Volume I and detailed in Appendix L. As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures or vehicle emissions would be expected. Therefore, there is no transportation concern that would warrant the construction and operation of multiple immobilization facilities.

MOX is a nightmare no one needs. MOX makes commercial reactors even more dangerous. MOX is an economic bailout for a failed industry. DOE must not use taxpayer dollars to pay utilities to use MOX. The Clinton administration favored complete immobilization with no MOX, in accordance with NAS recommendations. The last minute justification of MOX under intense nuclear lobby was primarily to keep up technologically with other countries, such as Russia primarily, that planned to use MOX. However, financial, fabrication, environmental, and public outrage pressures are making MOX unlikely in Russia. MOX also carries intense proliferation concerns, because it can be used for Pu breeder reactors, along with distribution and other proliferation concerns with MOX. Associated tritium production is also of great proliferation concern. Remember, the Nuclear Non-Proliferation Treaty obligates the USA to work towards eliminating nuclear arsenals and weapons.

7

Sincerely,
Scott Hatfield - various environmental,
peace, and scientific groups
Scott Hatfield
PO Box 15471
Boulder CO
80308-8471

MD238

MD238-7

DOE Policy

Use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. U.S. policy dating back to the Ford Administration has prohibited the commercial, chemical reprocessing and separation of plutonium from spent nuclear fuel. The use of U.S. surplus plutonium in existing domestic, commercial reactors does not involve reprocessing (reprocessing is a chemical separation of uranium, transuranic elements [including plutonium], and fission products from spent reactor fuel and the reuse of the plutonium and uranium to produce new fresh fuel). Section 4.28 discusses the potential environmental impacts of operating the reactors that would use the MOX fuel.

The remainder of this comment is addressed in response MD238-1.

Hi, my name is Wade Lockhart and my phone number is (303) 473-9986. I'm calling to express my opinion and to discourage you from using mixed oxide fuel in nuclear reactors for numerous reasons. I'd like to encourage you once again not to use MOX in nuclear reactors. It doesn't make any sense. It doesn't really eliminate any of the plutonium. It's quote, Westinghouse has quoted as saying that only one percent less than the amount of plutonium that goes into it comes out of the reactor. So this no way to get rid of our nuclear stockpile plutonium. My opinion is the best way to deal with this plutonium is to monitor it and perhaps do more research on vitrification or ways of storing it, but not to put it into nuclear reactors. All we are asking for there is just to enhance the, the waste problem that we already have and we haven't dealt with. And so I encourage you to not use mixed oxide or produce mixed oxide fuel for commercial nuclear reactors. Thank you.

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PD049

PD049-1

Alternatives

DOE acknowledges the commentor's opposition to the MOX approach. The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. As described in Sections 2.18.3 and 4.28.2.8, additional spent fuel would be produced by using MOX fuel instead of LEU fuel in domestic, commercial reactors. Spent fuel management at the proposed reactor sites is not expected to change dramatically due to the substitution of MOX assemblies for some of the LEU assemblies. Likewise, the additional spent fuel would be a very small fraction of the total that would be managed at the potential geologic repository.

Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

Rocky Mountain Peace and Justice Center

P.O. Box 1156, Boulder, CO 80306 ph: (303) 444-6981 fax: (303) 444-6523

**Comments on the Surplus Plutonium Disposition Draft Environmental Impact Statement
(DOE/EIS-0283-D)
submitted by the Rocky Mountain Peace and Justice Center
September 16, 1998**

The Rocky Mountain Peace and Justice Center (RMPJC) appreciates the opportunity to comment on the Surplus Plutonium Disposition Draft Environmental Impact Statement (SPDEIS). Since 1983 RMPJC has worked on issues pertaining to the DOE nuclear weapons complex, with a focus on the Rocky Flats Site.

As Rocky Flats currently stores approximately 12 metric tons of plutonium, most of which has been declared surplus, RMPJC has a strong interest in the disposition of plutonium. We also strongly agree that timely and environmentally safe disposition of plutonium is needed to reduce the threat of nuclear weapons proliferation worldwide (we note that it is not only the proliferation of weapons but the material itself that is of concern). However, we do not believe that any of the alternatives analyzed in the SPDEIS lead toward fulfillment of this goal, we find that the SPDEIS is fundamentally deficient, and ask that it be redone.

DOE identifies three preferred alternatives for disposition of plutonium:

- 1) Construct a new immobilization facility at the Savannah River Site that would operate in conjunction with the Defense Waste Processing Facility to immobilize waste during the can-in-can process;
- 2) Construct and operate a new MOX fuel fabrication facility at Savannah River Site;
- 3) Construct and operate a pit disassembly and conversion facility at Pantex or Savannah River Site.

RMPJC has the following concerns with the preferred alternatives and the disposition strategy outlined through these alternatives.

- 1) The SPDEIS does not demonstrate the need or benefit of a dual track disposition strategy.
- 2) The SPDEIS does not adequately consider the costs associated with a dual track plutonium disposition caused by public opposition to the MOX option.
- 3) The SPDEIS does not provide a rationale for directing only 17 tons of plutonium toward immobilization.

FD323

FD323-1

General SPD EIS and NEPA Process

DOE acknowledges the commentors' views. DOE has prepared this SPD EIS in accordance with the provisions of NEPA (42 U.S.C. 4321 et seq.) and the related CEQ and DOE implementation regulations (40 CFR 1500 through 1508 and 10 CFR 1021, respectively).

FD323-2

Purpose and Need

DOE acknowledges the commentors' concern about the preferred alternatives and the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

FD323-3

Cost

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), that analyses the site-specific cost estimates for each alternative was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

The SPD Final EIS was not issued until the proposed reactors had been identified and the public had an opportunity to comment on the reactor-specific information. As part of the procurement process, bidders were asked to provide environmental information to support their proposals. This information was analyzed in an Environmental Critique prepared for the DOE source selection board prior to award of the MOX fuel fabrication and irradiation services contract. DOE then prepared an Environmental Synopsis on the basis of the Environmental Critique, which was released to the public as Appendix P of the *Supplement to the SPD Draft EIS* in April 1999. This *Supplement* included a description of the affected environment around the three proposed reactor sites, and analyses of the potential environmental impacts of operating these reactors using MOX fuel (Sections 3.7 and 4.28 of this SPD EIS, respectively). During the 45-day period for public comment on the *Supplement*, DOE held a public hearing in Washington, D.C., on June 15, 1999, and invited comments. Responses to those comments are provided in Volume III, Chapter 4.

FD323-4

Alternatives

DOE reviewed the chemical and isotopic composition of the surplus plutonium and determined in the *Storage and Disposition PEIS* ROD that about 8 t (9 tons) of surplus plutonium were not suitable for use in making MOX fuel. Furthermore, DOE has identified an additional 9 t (10 tons) for a total of 17 t (19 tons) that have such a variety of chemical and isotopic compositions that it is more reasonable to immobilize these materials and avert the processing complexity that would be added if these materials were made into MOX fuel. The criteria used in this identification included the level of impurities, processing requirements, and the ability to meet the MOX fuel specifications. If at any time it were determined that any of the 33 t (36 tons) currently proposed for MOX fuel fabrication was unsuitable, that portion would be sent to the immobilization facility. The addition of this material would not require the immobilization facility to operate longer because it is being designed to handle a throughput of up to 50 t (55 tons) over a 10-year period. Likewise, the MOX facility is being designed to handle up to 33 t (36 tons) of surplus plutonium but would have the flexibility to operate at a lower throughput.

4) The SPDEIS analyzes only the disposition of 50 tons of surplus plutonium. According to the SPDEIS, "The three facilities would be designed so that they could collectively accomplish disposition of up to 50t (55 tons) of surplus plutonium over their operating lives..." (p. 1-6) It is probable that significantly more plutonium will be declared surplus during this time frame. This needs to be anticipated in the design of current disposition alternatives.

5

5) The SPDEIS does not adequately analyze the impact of a significant delay or the failure of one track of the disposition strategy on the goal of accomplishing timely disposition.

6

6) The SPDEIS fails to analyze immobilization at more than one site.

7

7) Proprietary information in bids for MOX fuel fabrication does not allow the public to fully assess the impact of this work.

8

The Rocky Mountain Peace and Justice Center urges the Department of Energy to redo the SPDEIS. It should analyze the impact of using the just the MOX option, and just the immobilization option. It should also analyze the possibility of immobilizing plutonium at more than one site, including the Rocky Flats Site. Portable and small scale immobilization technology should be analyzed. It should analyze the possibility of splitting the immobilization steps for the can-in-can process between different sites. That is, explore the possibility of immobilizing the "inside can" at the current storage location.

9

Again, RMPJC would like to thank the Department of Energy for the opportunity to comment on the SPDEIS. If you have any questions regarding our comments please contact Leroy Moore or Tom Marshall at (303) 444-6981.

FD323

FD323-5

Purpose and Need

During the first week of September 1998, Presidents Clinton and Yeltsin held a Moscow summit and signed a statement of principles with the intention of removing approximately 50 t (55 tons) of plutonium from each country's stockpile. This document was added to Appendix A of Volume II.

DOE acknowledges the commentor's concern that the amount of surplus weapons-usable plutonium may change in the future. The design of the facilities could remain the same, but additional amounts could affect the schedule of surplus plutonium disposition. If the amount increased, DOE would comply with NEPA requirements and conduct further analyses.

FD323-6

Purpose and Need

The advantages of DOE's hybrid approach are described in response FD323-2.

FD323-7

Alternatives

As described in Chapter 2 of Volume I, all of the surplus plutonium disposition alternatives include immobilization of some or all of the surplus plutonium at either Hanford or SRS. Although DOE's preferred alternative is to locate the immobilization facility at SRS, Chapter 4 of Volume I analyzes the site-specific impacts associated with construction and operation of the immobilization facility at both Hanford and SRS.

FD323-8

MOXRFP

This comment is addressed in the public comment opportunity portion of response FD323-3.

FD323-9

Alternatives

Regarding portable, small-scale immobilization at plutonium storage sites, development work to date on the conversion, blending, and immobilization of these feed materials calls for a centralized plant to produce a durable, standardized product in a cost-effective manner. In addition, the NWPA qualification of the immobilized forms for disposal in a potential geologic repository could be affected if current plans for producing uniform products

were replaced with forms that varied significantly from site to site. In addition, deploying a new plutonium immobilization mission at RFETS would conflict with DOE commitments to expedite closure of the site by 2006.

While immobilizing all surplus plutonium is analyzed in this SPD EIS, fabricating all surplus plutonium into MOX fuel is not a reasonable alternative and is not analyzed. As described in response FD323-4, this is due to the complexity, timing, and cost that would be involved in purifying those plutonium materials to make them suitable for use in MOX fuel.

SMITH, FRANK W.
PAGE 1 OF 1

To: Harold Canter, Director
Office of Fissile Materials Disposition
U. S. Department of Energy
PO Box 23786
Washington, DC 20026-3786

10 September, 1998

From: Frank W. Smith

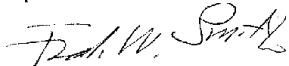
Re: Comment, Surplus Plutonium Disposition (SPD) EIS

We once met, at the Arvada Center in Denver with me in a wheelchair. I remain active at an appropriate level of engagement for growing physical limitations.

I strongly suggest that another facet be added to your Final EIS, namely a constructive showing that the commercial reactor(s) owners will "accept-and-use" MOX fuel to be created by that plutonium disposition option.

It has been shown in other studies that plutonium-based fuel(s) are not the "economic" fuel-of-choice" for light water reactors, and that there is a "uranium industry" that can be expected to fight use of MOX fuels that place the government (DoE) in competition with private industry. Without takers of MOX fuel, disposition will not be accomplished, and holding costs will continue.

Without addressing the "acceptance-and-use" of MOX fuels to be fabricate, the SPD EIS is incomplete. So please examine and report upon the prospect(s) for "acceptance and use of surplus-plutonium-based MOX fuel" for commercial reactors in the FINAL SPD EIS.



Frank W. Smith
235 Lipan Way ... a change of street address for your mailing list, please
Boulder, CO 80303-3634
(303) 494-8355

MD166

MD166-1

MOX Approach

DOE conducted a procurement process to acquire MOX fuel fabrication and irradiation services. The selected team, DCS, would design, request a license, construct, operate, and deactivate the MOX facility as well as irradiate the MOX fuel in domestic, commercial reactors. However, these activities are subject to the completion of the NEPA process. Because the fuel fabricator and reactor licensees work closely as a team, it is unlikely that there would be a problem in accepting the MOX fuel. Section 4.28 was revised to discuss the potential environmental impacts of operating Catawba, McGuire, and North Anna, the reactors that would use the MOX fuel.

1

THE ROCKY FLATS LOCAL IMPACTS INITIATIVE
BOB DYER
PAGE 1 OF 1

THE ROCKY FLATS LOCAL IMPACTS INITIATIVE

5460 Ward Road, Suite 205
 Arvada, Colorado 80002

Phone: (303) 940-6090
 Fax: (303) 940-6088
 e-mail: rliii@rliii.org

August 28, 1998

Howard R. Canter
 Acting Director
 Office of Fissile Materials Disposition
 US Department of Energy
 PO Box 23786
 Washington, DC 20026-3786

Dear Mr. Canter:

Thank you for the opportunity to comment on the Environmental Impact Statement for the disposition of surplus plutonium. The Rocky Flats Local Impacts Initiative is a coalition of local governments, unions, neighbors and community interest groups working together to provide a community voice in the downsizing of the Rocky Flats facility. It is not within our mission nor expertise to comment on the options for disposition facilities or processes. However there are two corollary issues important to us.

First, we are eager to have the excess plutonium now being stored at Rocky Flats safely moved to better locations. With over two million people now living within fifty miles of Rocky Flats and the plutonium being stored in inadequate facilities, we support the goals of the Rocky Flats Field Office and Kaiser-Hill to accelerate shipments. In order to optimize the cleanup schedule, shipments of plutonium metals and oxides should begin in the next two to four years. We support and appreciate the August amendment to the Record of Decision for storage and disposal that would accelerate shipment of Rocky Flats non-pit plutonium to Savannah River once the decision is finalized that SRS should be the ultimate disposal site. 1

Second, we foresee that a concern will be raised by citizens and communities along the transportation corridors. The EIS does not specify routes due to security concerns. However, if this material is to be shipped on routes other than those already designated by states for transport of hazardous materials, concerns of local communities may be justified. We urge your office to continue to coordinate with other DOE programs, states, Tribes, local governments and others to provide information and assurance to those in potential transportation corridors of the safety of the transport. 2

Sincerely,



for Bob Dyer
 Chair

MD171

MD171-1

Storage and Disposition PEIS and ROD

DOE acknowledges the commentor's support of the amended *Storage and Disposition PEIS* ROD to support the early closure of RFETS.

MD171-2

Transportation

The shipment of nuclear material (e.g., depleted uranium) using commercial carriers would be the subject of detailed transportation plans in which routes and specific processing locations would be discussed. These plans are coordinated with State, tribal, and local officials. The shipment of waste would be in accordance with the decisions reached on the *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste* (DOE/EIS-0200-F, May 1997) and the *WIPP Disposal Phase Final Supplemental EIS* (DOE/EIS-0026-S-2, September 1997) because the waste types and volumes that would result from surplus plutonium disposition activities have been included in those environmental reviews. The transportation of special nuclear materials is the subject of detailed planning with DOE's Transportation Safeguards Division. The dates and times that specific transportation routes would be used for special nuclear materials are classified information; however, the number of shipments that would be required, by location, has been included in this SPD EIS. Additional details are provided in *Fissile Materials Disposition Program SST/SGT Transportation Estimation* (SAND98-8244, June 1998), which is available on the MD Web site at <http://www.doe-md.com>.

I think the transportation issues have not been adequately treated. Transportation issues could be the show stoppers because this is where you interface with the public. It appears to me to be obvious that from the standpoint of minimizing public risk and minimizing the possible diversion of SNM during transportation, the best option is Pu conversion and MOX at Pantex with Pu Immobilization at SRS to avoid shipping weapons grade materials around the country. It appears, however, that politics is moving MOX to SRS so you haul PuO₂ from TX to SC. For my money I would put PDCF (pits to PuO₂) and MOX at Pantex, then you would be shipping reactor fuel from Pantex not PuO₂.

1

WD008

WD008-1

Transportation

DOE acknowledges the commentor's concern regarding transportation of special nuclear materials, and support for siting the pit conversion and MOX facilities at Pantex and the immobilization facility at SRS. This siting corresponds to Alternative 9 in this SPD EIS. Transportation impacts are summarized in Chapter 4 of Volume I and Appendix L. As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures or vehicle emissions are expected. Decisions on the surplus plutonium disposition program will be based on environmental analyses (including analyses of transportation risks), technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

FLORIDA COASTAL MANAGEMENT PROGRAM
CHRIS McCAY
PAGE 1 OF 8



STATE OF FLORIDA
DEPARTMENT OF COMMUNITY AFFAIRS

"Helping Floridians create safe, vibrant, sustainable communities"

LAWTON CHILES
Governor

JAMES F. MURLEY
Secretary

September 29, 1998

Mr. Howard R. Canter
U.S. Department of Energy
Office of Fissile Materials Disposition
Post Office Box 23786
Washington, DC 20026-3786

RE: U.S. Department of Energy - Surplus Plutonium Disposition -
Draft Environmental Impact Statement - Statewide
SAI: FL9808110565C

Dear Mr. Canter:

The Florida State Clearinghouse, pursuant to Presidential Executive Order 12372, Gubernatorial Executive Order 95-359, the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended, and the National Environmental Policy Act, 42 U.S.C. §§ 4321, 4331-4335, 4341-4347, as amended, has coordinated a review of the above-referenced project.

Based on the information contained in the draft environmental impact statement and the enclosed comments provided by our reviewing agencies, the state has determined that, at this stage, the above-referenced action is consistent with the Florida Coastal Management Program.

Thank you for the opportunity to review the draft environmental impact statement. If you have any questions regarding this letter, please contact Ms. Cherie Trainor, Clearinghouse Coordinator, at (850) 922-5438.

Sincerely,

Chris McCay
for Ralph Cantral, Executive Director
Florida Coastal Management Program

RC/cc

Enclosures

2555 SHUMARD OAK BOULEVARD • TALLAHASSEE, FLORIDA 32399-2100
Phone: 850.488.8466/Suncom 278.8466 FAX: 850.921.0781/Suncom 291.0781
Internet address: <http://www.state.fl.us/comaff/dca.html>

FLORIDA KEYS
Area of Critical State Concern Field Office
2796 Overseas Highway, Suite 211
Marathon, Florida 33050-2237

GREEN SWAMP
Area of Critical State Concern Field Office
155 East Samnelia
Bartow, Florida 33810-6641

SOUTH FLORIDA RECOVERY OFFICE
P.O. Box 4022
8609 N.W. 36th Street
Miami, Florida 33159-4022

MD333

MD333-1

General SPD EIS and NEPA Process

DOE acknowledges the State's receipt of the SPD Draft EIS and its determination that the proposed action, at this stage, is consistent with the Florida Coastal Management Program.

FLORIDA COASTAL MANAGEMENT PROGRAM
CHRIS McCAY
PAGE 2 OF 8

COMMENTS DUE-2 WKS: 08/28/1998
 CLEARANCE DUE DATE: 09/25/1998
 SAI#: FL98081105

Message:

STATE AGENCIES	WATER MANAGEMENT DISTRICTS	OPB POLICY UNITS
<input checked="" type="checkbox"/> Agriculture <input type="checkbox"/> Community Affairs <input type="checkbox"/> Environmental Protection <input type="checkbox"/> Game and Fresh Water Fish Comm <input type="checkbox"/> OTTED <input type="checkbox"/> State <input type="checkbox"/> Transportation		<input type="checkbox"/> Environmental Policy/C & ED

The attached document requires a Coastal Zone Management Act/Florida Coastal Management Program consistency evaluation and is categorized as one of the following:

- Federal Assistance to State or Local Government (15 CFR 930, Subpart F). Agencies are required to evaluate the consistency of the activity.
- Direct Federal Activity (15 CFR 930, Subpart C). Federal Agencies are required to furnish a consistency determination for the State's concurrence or objection.
- Outer Continental Shelf Exploration, Development or Production Activities (15 CFR 930, Subpart E). Operators are required to provide a consistency certification for state concurrence/objection.
- Federal Licensing or Permitting Activity (15 CFR 930, Subpart D). Such projects will only be evaluated for consistency when there is not an analogous state license or permit.

Project Description:

Department of Energy - Surplus Plutonium Disposition Draft Environmental Impact Statement - Florida.

To: Florida State Clearinghouse
 Department of Community Affairs
 2555 Shumard Oak Boulevard
 Tallahassee, FL 32399-2100
 (850) 922-5438 (SC 292-5438)
 (850) 414-0479 (FAX)

EO. 12372/NEPA

Federal Consistency

- No Comment
- Comments Attached
- Not Applicable

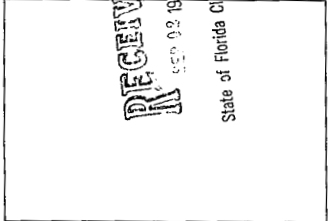
- No Comment/Consistent
- Consistent/Comments Attached
- Inconsistent/Comments Attached
- Not Applicable

From: Florida Division of Forestry
 Forest Resource Planning
 & Support Services Bureau
 3125 Corner Boulevard
 Tallahassee, Florida 32399-1650
 Division/Bureau: _____
 Reviewer: *James E. [Signature]*
 Date: *5/6/98*

MD333

**FLORIDA COASTAL MANAGEMENT PROGRAM
CHRIS MCCAY
PAGE 3 OF 8**

Message: CLEARANCE DUE DATE: 09/25/1998
FL9608110561

STATE AGENCIES	WATER MANAGEMENT DISTRICTS	OPB POLICY UNITS
Agriculture Affairs Community Development Environmental Protection Game and Fresh Water Fish Comm OTTED State Transportation		<input checked="" type="checkbox"/> Environmental Policy/C & ED

The attached document requires a Coastal Zone Management Act/Florida Coastal Management Program consistency evaluation and is categorized as one of the following:

— Federal Assistance to State or Local Government (15 CFR 930, Subpart F).
 — Federal Assistance to evaluate the consistency of the activity.
 — X Direct Federal Activity (15 CFR 936, Subpart C). Federal Agencies are required to furnish a consistency determination for the State's concurrence or objection.
 — Our Continental Shelf Exploration, Development or Production Activities (15 CFR 936, Subpart E). Operators are required to provide a consistency certification for state concurrence/objection.
 — Federal Licensing or Permitting Activity (15 CFR 930, Subpart D). Such projects will only be evaluated for consistency when there is not an analogous state license or permit.

Project Description:
 Department of Energy - Surplus Plutonium Disposition Draft Environmental Impact Statement - Florida.

To: Florida State Clearinghouse
 Department of Community Affairs
 2555 Shumard Oak Boulevard
 Tallahassee, FL 32399-2100
 (850) 922-5438 (SC 292-5438)
 (850) 414-0479 (FAX)

Federal Consistency

No Comment/Consistent
 Consistent/Comments Attached
 Inconsistent/Comments Attached
 Not Applicable

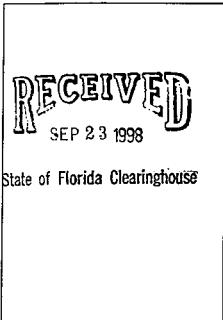
From: Division/Bureau: EOC/OPB/EAM
 Reviewer: *[Signature]*
 Date: *[Signature]* August 31, 1998

MD333

FLORIDA COASTAL MANAGEMENT PROGRAM
CHRIS McCAY
PAGE 4 OF 8

COMMENTS DUE-3 WKS: 09/04/1998
 CLEARANCE DUE DATE: 09/25/1998
 SAI#: FL980811056

Message:

STATE AGENCIES	WATER MANAGEMENT DISTRICTS	OPB POLICY UNITS
Agriculture Community Affairs X Environmental Protection Game and Fresh Water Fish Comm OTTED State Transportation		Environmental Policy/C & ED

The attached document requires a Coastal Zone Management Act/Florida Coastal Management Program consistency evaluation and is categorized as one of the following:

- Federal Assistance to State or Local Government (15 CFR 930, Subpart F). Agencies are required to evaluate the consistency of the activity.
- X Direct Federal Activity (15 CFR 930, Subpart C). Federal Agencies are required to furnish a consistency determination for the State's concurrence or objection.
- Outer Continental Shelf Exploration, Development or Production Activities (15 CFR 930, Subpart E). Operators are required to provide a consistency certification for state concurrence/objection.
- Federal Licensing or Permitting Activity (15 CFR 930, Subpart D). Such projects will only be evaluated for consistency when there is not an analogous state license or permit.

Project Description:

Department of Energy - Surplus Plutonium Disposition Draft Environmental Impact Statement - Florida.

To: Florida State Clearinghouse
 Department of Community Affairs
 2555 Shumard Oak Boulevard
 Tallahassee, FL 32399-2100
 (850) 922-5438 (SC 292-5438)
 (850) 414-0479 (FAX)

EO. 12372/NEPA

Federal Consistency

- | | |
|------------------------------------------------|---------------------------------------------------------|
| <input checked="" type="checkbox"/> No Comment | <input type="checkbox"/> No Comment/Consistent |
| <input type="checkbox"/> Comments Attached | <input type="checkbox"/> Consistent/Comments Attached |
| <input type="checkbox"/> Not Applicable | <input type="checkbox"/> Inconsistent/Comments Attached |
| | <input type="checkbox"/> Not Applicable |

From: FDEP
 Division/Bureau: ecosystem mgmt/OIP
 Reviewer: Chris D. Webb
 Date: 7/21/98

MD333

FLORIDA COASTAL MANAGEMENT PROGRAM
 CHRIS MCCAY
 PAGE 5 OF 8

Message: **STATE AGENCIES** **WATER MANAGEMENT DISTRICTS** **OPB POLICY UNITS**

Agriculture
 Community Affairs
 Environmental Protection
 Game and Inland Water Fish Comm
 OTW
 State Revenues
 State Transportation
 State Utilities
 State Veterans Affairs
 State Workforce
 State Youth Services
 State Zoning
 State Parks and Recreation
 State Health Services
 State Corrections
 State Emergency Services
 State Fire Services
 State Police
 State Sheriff's Office
 State Troop
 State Veterans Affairs
 State Workforce
 State Youth Services
 State Zoning
 State Parks and Recreation
 State Health Services
 State Corrections
 State Emergency Services
 State Fire Services
 State Police
 State Sheriff's Office
 State Troop

CLEARANCE DUE DATE: 09/25/1998
 VOTER REG. NO.: 09/25/1998
 SAI #: FL98081105

RECEIVED BY OFC
 AUG 14 1998
 OFFICE OF
 ENVIRONMENTAL SERVICES

Project Description:
 Department of Energy - Surplus Plutonium Disposition Draft Environmental Impact Statement - Florida.

The attached document requires a Coastal Zone Management Act/Florida program consistency evaluation and is categorized as one of the following:
 - Federal/ Assistance to State or Local Government (15 CFR 930, Subpart F).
 - Agencies are required to evaluate the consistency of the activity.
 - Direct Federal Activity (16 CFR 930, Subpart C). Federal Agencies are required to furnish the consistency determination for the State's concurrence approval.
 - Other: Coastal Shelf Exploration, Development or Production Activities (16 CFR 930, Subpart E).
 - Agencies are required to provide a consistency certification for state concurrence/objection.
 - Federal Licensing or Permitting Activity (16 CFR 930, Subpart D). Such activities will be evaluated for consistency when there is not an analogous state license or permit.

To: Florida State Clearinghouse
 Department of Community Affairs
 2555 Shumard Oak Boulevard
 Tallahassee, FL 32399-2100
 (850) 922-5438 (SC 232-5438)
 (850) 414-0479 (FAX)

EO. 12372/NEPA **Federal Consistency**

No Comment
 Comments Attached
 Not Applicable

No Comment/Consistent
 Inconsistent/Comments Attached
 Not Applicable

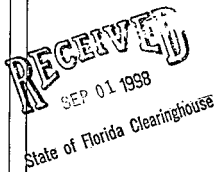
From: Division/Bureau: Office of Environmental Services
 Reviewer: Alley Bennett
 Date: 8/17/98

MD333

FLORIDA COASTAL MANAGEMENT PROGRAM
CHRIS McCAY
PAGE 6 OF 8

Message:

CLEARANCE DUE DATE: 09/25/1998
 SAI#: FL980811056

STATE AGENCIES	WATER MANAGEMENT DISTRICTS	OPB POLICY UNITS
Agriculture Community Affairs Environmental Protection Game and Fresh Water Fish Comm <input checked="" type="checkbox"/> OTTED State Transportation		Environmental Policy/C & ED <div style="text-align: center;">  </div>

The attached document requires a Coastal Zone Management Act/Florida Coastal Management Program consistency evaluation and is categorized as one of the following:

- Federal Assistance to State or Local Government (15 CFR 930, Subpart F). Agencies are required to evaluate the consistency of the activity.
- Direct Federal Activity (15 CFR 930, Subpart C). Federal Agencies are required to furnish a consistency determination for the State's concurrence or objection.
- Outer Continental Shelf Exploration, Development or Production Activities (15 CFR 930, Subpart E). Operators are required to provide a consistency certification for state concurrence/objection.
- Federal Licensing or Permitting Activity (15 CFR 930, Subpart D). Such projects will only be evaluated for consistency when there is not an analogous state license or permit.

Project Description:

Department of Energy - Surplus Plutonium Disposition Draft Environmental Impact Statement - Florida.

To: Florida State Clearinghouse
 Department of Community Affairs
 2555 Shumard Oak Boulevard
 Tallahassee, FL 32399-2100
 (850) 922-5438 (SC 292-5438)
 (850) 414-0479 (FAX)

EO. 12372/NEPA

- No Comment
- Comments Attached
- Not Applicable

Federal Consistency

- No Comment/Consistent
- Consistent/Comments Attached
- Inconsistent/Comments Attached
- Not Applicable

From:

Division/Bureau: OTTED
 Reviewer: Mr. Blakely
 Date: 8/27/98

MD333

FLORIDA COASTAL MANAGEMENT PROGRAM
CHRIS MCCAY
PAGE 7 OF 8

COMMENTS DUE-2 WKS: 08/28/1998
 CLEARANCE DUE DATE: 09/25/1998
 MESSAGE: SAI#: FL98081105

STATE AGENCIES	WATER MANAGEMENT DISTRICTS	OPB POLICY UNITS
* Agriculture * Community Affairs * Environmental Protection * Game and Fresh Water Fish Comm * Health * State * Transportation	NONE IN FL	AILFLA SAH-DOE-DEIS 98 SAH RECEIVED BUREAU OF HISTORIC PRESERVATION AUG 19 PH 12: 01

The attached document requires a Coastal Zone Management Act/Florida Coastal Management Program consistency evaluation and is categorized as one of the following:

- Federal Assistance to State or Local Government (15 CFR 930, Subpart F). Agencies are required to evaluate the consistency of the activity.
- Direct Federal Activity (15 CFR 930, Subpart C). Federal Agencies are required to furnish a consistency determination for the State's concurrence or objection.
- Outer Continental Shelf Exploration, Development or Production Activities (15 CFR 930, Subpart E). Operators are required to provide a consistency certification for state concurrence/objection.
- Federal Licensing or Permitting Activity (15 CFR 930, Subpart D). Such projects will only be evaluated for consistency when there is not an analogous state license or permit.

To: Florida State Clearinghouse
 Department of Community Affairs
 2555 Shumard Oak Boulevard
 Tallahassee, FL 32399-2100
 (850) 922-5438 (SC 292-5438)
 (850) 414-0479 (FAX)

EO. 12372/NEPA

Federal Consistency

No Comment
 Comments Attached
 Not Applicable

No Comment/Consistent
 Consistent/Comments Attached
 Inconsistent/Comments Attached
 Not Applicable

From: Division Bureau: ANNECOURT ROBERTSON
 Reviewer: Steve Ross
 Date: 8/25/98
Laura R. Hammer

MD333

FLORIDA COASTAL MANAGEMENT PROGRAM
CHRIS McCAY
PAGE 8 OF 8

Message:

CLEARANCE DUE DATE: 09/25/1998
 SAI#: FL9808110E

STATE AGENCIES	WATER MANAGEMENT DISTRICTS	OPB POLICY UNITS
Agriculture Community Affairs Environmental Protection Game and Fresh Water Fish Comm OTTED State <input checked="" type="checkbox"/> Transportation		Environmental Policy/C & ED

The attached document requires a Coastal Zone Management Act/Florida Coastal Management Program consistency evaluation and is categorized as one of the following:

- Federal Assistance to State or Local Government (15 CFR 930, Subpart F). Agencies are required to evaluate the consistency of the activity.
- Direct Federal Activity (15 CFR 930, Subpart C). Federal Agencies are required to furnish a consistency determination for the State's concurrence or objection.
- Outer Continental Shelf Exploration, Development or Production Activities (15 CFR 930, Subpart E). Operators are required to provide a consistency certification for state concurrence/objection.
- Federal Licensing or Permitting Activity (15 CFR 930, Subpart D). Such projects will only be evaluated for consistency when there is not an analogous state license or permit.

Project Description:

Department of Energy - Surplus Plutonium Disposition Draft Environmental Impact Statement - Florida.

To: Florida State Clearinghouse
 Department of Community Affairs
 2555 Shumard Oak Boulevard
 Tallahassee, FL 32399-2100
 (850) 922-5438 (SC 292-5438)
 (850) 414-0479 (FAX)

EO. 12372/NEPA

- No Comment
- Comments Attached
- Not Applicable

Federal Consistency

- No Comment/Consistent
- Consistent/Comments Attached
- Inconsistent/Comments Attached
- Not Applicable

From:

Division/Bureau: Environmental Mgt. OFFICE
 Reviewer: LOUIS REIS
 Date: 8/26/98

MD333

This is Ed Arnold from Atlanta, Georgia. Address here is 421 Clifton Road, Atlanta 30307. My phone number here is (404) 371-1849. Just as a citizen, I'm concerned that this MOX idea has progressed. Contrast, putting these things in the ground as they are with processing the pits, changing into the MOX fuel, transporting them from place to place as they need to be, getting the extra plutonium out into the commercial sector where there is more security risk, running the risk of higher temperatures and more hazardous waste at the commercial sites and as I understand it, the EIS does not include anything about final placement either for fuel use at the commercial sites or spent fuel disposal after its finished. Contrast that with just putting these things in the ground. I don't understand you. I, I have spoken with people who say Russians say, well we have to do it because the U.S. is doing it. One justification I would thought might be the case was that we wanted to do it so we'd know something the technology so that we could help the Russians if anything went wrong. Well if they are doing it because we are doing it and, I just don't understand you. Good-bye.

1

PD057

PD057-1

MOX Approach

DOE acknowledges the commentor's opposition to the MOX approach. The MOX approach was recommended by NAS as an effective means for managing surplus plutonium, and was endorsed by those elements of the international scientific community involved in studies of plutonium disposition. Consistent with the U.S. policy of discouraging the civilian use of plutonium, a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation would be a once-through cycle with no reprocessing.

As described in Sections 2.18.3 and 4.28.2.8, additional spent fuel would be produced by using MOX fuel instead of LEU fuel in domestic, commercial reactors. Spent fuel management at the proposed reactor sites is not expected to change dramatically due to the substitution of MOX assemblies for some of the LEU assemblies. Likewise, the additional spent fuel would be a very small fraction of the total that would be managed at the potential geologic repository.

The direct-disposition alternative (i.e., direct placement of plutonium into the ground) was eliminated by the *Storage and Disposition PEIS* ROD, mainly because the plutonium would be more retrievable and thus less proliferation resistant. DOE has identified as its preferred alternative the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

I am Larry Sconyers, Mayor of Augusta

**Richmond County. I am here today to express
 my support for the Savannah River Site and the
 new missions under consideration for location
 there.**

**SRS has a long and outstanding safety,
 environmental and production record.**

1

SCD51

SCD51-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

**We are proud of SRS and the employees there,
both past and present. They have made
significant contributions to our national security
and to the end of the Cold War. They are
outstanding citizens in every respect.**

1

**Plutonium Disposition is an essential program
for our nation's security, today and in the**

2

SCD51

future. SRS stands ready to accept that responsibility and this community stands behind that readiness. Our support for SRS is second to none any where in the DOE complex. Secretary Pena saw this in his visit here last December and we look forward to Secretary Richardson visiting us in the very near future.

1

3

SCD51

SRS has the experience, expertise, and infrastructure required to accomplish the Plutonium Disposition missions. Having been selected as the preferred site for Mixed Oxide Fuel Fabrication and Immobilization based on these existing capabilities, Pit Disassembly and Conversion should also be located here. Consolidating the three missions at SRS will save taxpayers hundreds of millions of dollars.

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4

SCD51

Pantex has never processed plutonium and therefore, does not have the infrastructure, experience or expertise to support any of the missions, especially Pit Disassembly and Conversion. We as taxpayers do not need to pay to build at Pantex what already exists and operates at SRS.

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5

SCD51

The EIS appears to have been prepared so as to attempt to level the competition field between SRS and Pantex. DOE should correct this document before it is published. Once done in an objective manner, it will verify what those of us who are familiar with SRS and Pantex already know - Pantex does not come close to being equal to SRS.

2

6

SCD51

SCD51-2

General SPD EIS and NEPA Process

Preparation of this SPD EIS involved carefully obtaining comparable data on all of the alternatives, analyzing such data consistently using well-recognized and accepted procedures, and presenting the results in a full and open manner.

Location of Pit Disassembly and Conversion

**work at SRS is not just about jobs. It is the
right thing to do for our nation and its
taxpayers. I encourage DOE to make the
correct decision.**

3

**Thank you for this opportunity to express my
comments and support.**

7

SCD51

SCD51-3

Other

DOE acknowledges the commentor's support for DOE to make the correct decision.

RESOLUTION

**RESOLUTION IN SUPPORT OF PLUTONIUM MISSION AT
THE SAVANNAH RIVER SITE**

WHEREAS, Plutonium handling must be in the hands of professionals with proven experience.

WHEREAS, DOE has already expressed confidence in SRS by assigning the Site the MOX and immobilization missions.

WHEREAS, use for all parts of the plutonium disposition mission, including pit disassembly and conversion, can save taxpayers at least \$1.6 billion based on avoided costs of new structures and equipment that would be required at other DOE sites.

WHEREAS, the Pantex facility in Texas has never processed plutonium; therefore there is no plutonium handling infrastructure and competency at Pantex.

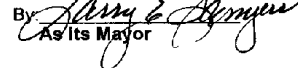
WHEREAS, transportation should not be an issue relative to choosing SRS. The pits are already being transported to Pantex in Texas.

WHEREAS, the DOE plutonium missions are safe, especially when performed by people with demonstrated competency such as the people at SRS. Tens of thousands of nuclear weapons workers have been involved in U.S. plutonium operations. Comprehensive medical surveillance programs at SRS and other sites have never found a death or even a cancer that could be related to worker exposure to plutonium.

NOW, BE IT RESOLVED, that the Augusta Commission strongly endorses major plutonium missions for the Savannah River Site and urges the Department of Energy to designate the Savannah River site as its local facility in plutonium management and disposition.

Duly adopted by The Augusta Commission this 4th day of August, 1998

The Augusta Commission

By 
As Its Mayor

ATTEST:

As Its Clerk

SCD51

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**AUGUSTA-RICHMOND COUNTY LEGISLATIVE DELEGATION
HONORABLE BEN ALLEN ET AL.
PAGE 1 OF 1**

RESOLUTION

WHEREAS, the handling and disposition of excess weapons plutonium is of grave concern to the national security of the United States; and

WHEREAS, plutonium disposition represents one of the most certain future missions of the Department of Energy for the next 20 to 30 years; and

WHEREAS, the Department of Energy has decided to pursue a dual path for plutonium disposition and has named the Savannah River Site as a candidate site for both options; and

WHEREAS, the Savannah River Site has produced approximately 40 percent of all U.S. weapons grade plutonium over the last 45 years and has safely handled plutonium in glovebox processing equipment with no adverse impact on workers, the public or the environment; and


WHEREAS, the Department of Energy in its Record of Decision recognizes the Savannah River Site as "a plutonium competent site with the most modern, state-of-the-art storage and processing facilities . . . with the only remaining large-scale chemical separation and processing capability in the DOE complex"; and

WHEREAS, the regional community in the Central Savannah River Area (CSRA) of South Carolina and Georgia strongly supports continued plutonium missions for the Department of Energy's Savannah River Site;

NOW BE IT RESOLVED that the Savannah River Regional Diversification Initiative (SRRDI) strongly endorses major plutonium missions for the Savannah River Site and urges the Department of Energy to designate the Savannah River Site as its lead facility in plutonium management and disposition.

APPROVED this 11th day of March, 1997, by the Augusta-Richmond County Legislative Delegation of the State of Georgia.


Representative Ben Allen


Representative George F. DeLoach

SCD84

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SCD84-1

Alternatives

DOE acknowledges the commentors' support for the surplus plutonium disposition program at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed surplus plutonium disposition facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

AUGUSTA-RICHMOND COUNTY LEGISLATIVE DELEGATION
HONORABLE JACK CONNELL
PAGE 1 OF 1



JACK CONNELL
Speaker Pro-Tem

House of Representatives

Atlanta, Georgia 30334

P. O. Box 308
Augusta, Georgia 30903
Telephone: 706/23-2712

Room 340
State Capitol
Atlanta, Georgia 30334
Telephone: 404/656-5072

June 19, 1997

Mr. Howard R. Canter, Director
U. S. Department of Energy
Office of Fissile Materials Disposition
P. O. Box 23786
Washington, D.C. 20026-3786

Dear Mr. Canter:

Due to circumstances that prevent me from attending the U. S. Department of Energy's workshop today, this letter is written to voice my support for the Savannah River Site as the selection for the plutonium disposition options under consideration.

Clearly, the SRS should be the choice for the plutonium mission based on what is best for the citizens of our country. While it is certainly important to our local area, my utmost concern is for this selection to be based on cost-effectiveness, safety for the workers, public environmental concerns, and for the betterment of our national security . . . and the SRS unquestionably meets all of these requirements.

SRS has the only large-scale plutonium processing facility in the country. From strictly a business standpoint, why would you spend the dollars to duplicate their capabilities at another location and additional dollars to transport components to the SRS? It is only logical to keep all the plutonium handling operations at one site. Further, the SRS has maintained a good safety record for more than 40 years with the technical and operating staff experienced in plutonium handling.

I hope the DOE will consider all of the advantages that the SRS has to offer.

Sincerely,

Jack Connell, Speaker Pro Tem
Chairman, Augusta-Richmond County Legislative Delegation

JC/dl

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SCD81

SCD81-1

Alternatives

DOE acknowledges the commentator's support for the surplus plutonium disposition program at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed surplus plutonium disposition facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.



**Question/ Information
Request Card**

Name: SAM Booker

Address: 4387 Roswell Dr
Arquata, Ga 30907

Phone: 706 863-2324 Fax: 706 863-2324

E-mail: sbooker@att.com

Question/ Request: while I am very pleased
with new missions coming to SRS, I am
concerned that there will be a rush to
develop on land outside the industrial zone

For further information contact:
U.S. Department of Energy, Office of Fissile Materials Disposition, MD-4
Forrestal Building, 1000 Independence Ave., SW, Washington, D.C. 20585
1-800-820-5156

SCD88

SCD88-1

Ecological Resources

DOE acknowledges the commentor's concern regarding natural wildlife habitat and recognizes the importance of protecting the ecological resources at SRS. To accommodate the proposed surplus plutonium disposition facilities, the fence in F-Area would need to be moved to incorporate more land. However, this parcel of land has been previously disturbed by past actions. Prior to construction, the proposed site would be surveyed for nests of migratory birds and consultations with USFWS and the South Carolina Department of Natural Resources would ensure that any appropriate mitigation actions would be implemented as needed to protect sensitive habitat or species.

BOOKER, SAM
PAGE 2 OF 2

on land in the Buffer Zone that to date
is still ecologically important and never
been paved over or had roads built
over.

Please make every effort to not
sacrifice our Natural Wildlife Habitat in
your effort to bring new jobs to SRS.
I hope you share my belief
that both can be done without harm.

Tom Barber

SCD88

This is Nancy Buss calling from Atlanta, Georgia. I just wanted to say that I think that the MOX fuel facilities do not sound like a good idea. It seems to me that we should be getting rid of all nuclear fuel plants because so far we have not found any good way to contain the waste products. I think the Department of Energy would do much better to put its resources and expertise behind solar power and things, wind power and things like that that can be renewed and are passive power sources, as far as contaminating the environment. Thank you very much.

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PD047

PD047-1**MOX Approach**

DOE acknowledges the commentor's opposition to the MOX approach. By fabricating MOX fuel from surplus plutonium, the United States is not encouraging domestic or foreign commercial use of plutonium as an energy source. Consistent with the U.S. policy of discouraging the civilian use of plutonium, a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, the facility would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the facility would be shut down at the completion of the surplus plutonium disposition program.

As described in Sections 2.18.3 and 4.28.2.8, additional spent fuel would be produced by using MOX fuel instead of LEU fuel in domestic, commercial reactors. Spent fuel management at the proposed reactor sites is not expected to change dramatically due to the substitution of MOX assemblies for some of the LEU assemblies. Likewise, the additional spent fuel would be a very small fraction of the total that would be managed at the potential geologic repository.

Through various programs in addition to the surplus plutonium disposition program, DOE is engaged in innovative technology development for energy production.

This is Emily Calhoun. I am a resident of Banks County, Georgia. I am calling to protest the proposal to allow utility companies to generate electricity from plutonium. That stuff is too hot to handle. It is highly radioactive. It is very dangerous. It should be immobilized. It should certainly not be used as fuel. We should develop renewable energy sources. Thank you.

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PD053

PD053-1

Alternatives

DOE acknowledges the commentor's support for the immobilization approach. However, DOE has identified as its preferred alternative the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

Through various programs in addition to the surplus plutonium disposition program, DOE is engaged in innovative technology development for energy production.



CAMPAIGN
FOR A
PROSPEROUS
GEORGIA

COMMENTS REGARDING THE SURPLUS PLUTONIUM DISPOSITION
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Submitted on behalf of Campaign for a Prosperous Georgia
September 16, 1998

Campaign for a Prosperous Georgia is a ratepayer-based organization working state-wide in Georgia on electricity issues to strengthen the economy and to protect the environment now and for future generations.

In making comments on the Draft Environmental Impact Statement, we bring attention to several issues which our organization urges the Department of Energy to address before proceeding any further with the mixed-oxide fuel experiment.

- 1) Consider the impacts of mixed-oxide fuel on individual commercial reactors. Until this is done, and it needs to be done up-front during the Environmental Impact Statement process, the EIS is not completed. 1
- 2) It is our understanding that none of the reactors in the country, including the Southeast region, were designed to accommodate mixed-oxide fuel. We also understand that generation of electricity with mixed-oxide fuel is an untried experiment and that nowhere in the world has mixed-oxide fuel using plutonium from warheads been used. In Europe, process plutonium that was never put in a warhead was used. We also understand that the use of mixed-oxide fuel from warhead plutonium increases the wear and tear on a reactor. This needs to be addressed as it relates to decommissioning plans, decommissioning costs, and public safety. 2
- 3) We understand that utilities or utility consortiums are looking to receive a "free" plutonium subsidy from the federal government for mixed oxide fuel generation. Issues such as "Whose money is this?" and "Will utilities be paid twice for the same kilowatt-hour—once by ratepayers and once by the government or taxpayers?" need to be addressed. At the public meeting in Augusta which our organization representatives attended, the Department of Energy response to the subsidy question was that utilities will not pass any costs of using mixed-oxide fuel onto ratepayers. With all due respect, we have heard that kind of statement before. Unfortunately, lack of sound cost estimates associated with the construction of nuclear plant Vogtle at the Savannah River Site resulted in the worst and most serious rate hike Georgians have ever experienced. 3
- 4) The Department of Energy needs to address the ways in which a mixed-oxide fuel subsidy unfairly advantage certain companies in a competitive utility market. 4

1087 AUSTIN AVENUE NE • ATLANTA, GEORGIA 30307 • 404 659 5675 • FAX 404 659-5676

FD315

FD315-1

MOX Approach

DOE acknowledges the commentor's concern regarding the MOX approach. As part of the procurement process, bidders were asked to provide environmental information to support their proposals. This information was analyzed in an Environmental Critique prepared for the DOE source selection board prior to award of the MOX fuel fabrication and irradiation services contract. DOE then prepared an Environmental Synopsis on the basis of the Environmental Critique, which was released to the public as Appendix P of the *Supplement to the SPD Draft EIS* in April 1999. This *Supplement* included a description of the affected environment around the three proposed reactor sites, and analyses of the potential environmental impacts of operating these reactors using MOX fuel (Sections 3.7 and 4.28 of this SPD EIS, respectively). During the 45-day period for public comment on the *Supplement*, DOE held a public hearing in Washington, D.C., on June 15, 1999, and invited comments. Responses to those comments are provided in Volume III, Chapter 4.

FD315-2

MOX Approach

Although no domestic, commercial reactors use MOX fuel, several are in fact designed to do so, and others can easily and safely accommodate a partial MOX core. Electricity is generated from MOX fuel in Europe, and a demonstration of the process was conducted in the United States in the early 1970s. While plutonium from warheads may never have been used in MOX fuel, its behavior in fuel is essentially the same as that of non-weapons-grade plutonium, and thus does not present a situation different from the MOX fuel experience to date. Reactor-grade and weapons-grade plutonium are chemically indistinguishable. The difference is isotopic: there is less plutonium 239 (and therefore more plutonium 240) in reactor-grade plutonium than in plutonium that was produced for use in weapons. However, since plutonium 240 is not fissile, it is the amount of plutonium 239 that dominates criticality concerns. MOX fuel, regardless of the origin of the plutonium, has a higher flux than LEU fuel, and thus can cause more wear on the reactor than LEU fuel. However, this is taken into account when developing fuel management strategy. Section 4.28 was revised to include reactor-specific analyses, including accident analyses, for the reactors proposed to irradiate MOX fuel.

Use of MOX fuel should not increase the cost of reactor operation or decommissioning. Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

FD315-3

MOX Approach

Use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. The MOX facility would produce nuclear fuel that would displace LEU fuel that utilities would have otherwise purchased. If the effective value of the MOX fuel exceeds the cost of the LEU fuel that it displaced, then the contract provides that money would be paid back to the U.S. Government by DCS based on a formula included in the DCS contract. The commercial reactors selected for the MOX approach include only those reactors whose operational life is expected to last beyond the life of the surplus plutonium disposition program.

The MOX approach is not intended to affect the viability of nuclear power generation at any particular reactor. DCS does not have to continue to use MOX fuel if it determines that it is uneconomical to operate the reactor. This ensures that DOE is not driving the continuation of reactor operations solely for the surplus plutonium disposition program. Furthermore, DCS would

Campaign for a Prosperous Georgia (cont.)

The Department of Energy's proposal to unfairly advantage nuclear energy suppliers through a subsidy is in sharp contradiction to the significant ongoing efforts nationwide to create a "level playing field" for power suppliers in an increasingly competitive utility market.

5) Without mixed-oxide fuel subsidies, is the Department of Energy prepared to buy out any mixed-oxide fuel reactors to keep them operating and is the Department of Energy prepared to address taxpayer opposition to government buyout?

6) The issue of who is going to buy electricity generated from mixed-oxide fuel must be addressed. Polls around the country show consistently that when given a preference, the majority of people want to invest in renewable energy and conservation, not fossil fuels and more clearly, not nuclear power.

In conclusion, we urge the Department of Energy to consider more wisely and more strategically a decision of whether to pursue the mixed-oxide fuel experiment at all. In the event the Department requires any background papers which support our above stated concerns, please do not hesitate to contact us at the address of phone number on the first page of these comments.

Further, we request to be informed of the Environmental Impact Statement process for individual commercial reactors.

Respectfully submitted on behalf
of Campaign for a Prosperous Georgia,


Rita Kilpatrick
Executive Director

FD315

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only be reimbursed for costs solely and exclusively related to MOX fuel irradiation. This would ensure that the taxpayers were not underwriting otherwise uneconomical electricity-generating assets.

FD315-4

MOX Approach

This comment is addressed in response FD315-3.

FD315-5

General SPD EIS and NEPA Process

As discussed in Section 2.1.3, if DOE decides to implement alternatives that require MOX fuel fabrication, then the MOX fuel would be irradiated in the Catawba, McGuire, and North Anna reactors. As described in Section 2.4.3.2, MOX fuel is produced with a process similar to that for the production of traditional LEU fuel for commercial power reactors. The use of MOX fuel is intended to be revenue neutral for participating utilities and transparent to their customers. The use of MOX fuel would not be expected to alter the customer base for participating utilities.

MOX fuel would displace traditional LEU fuel in participating reactors. However, the purpose of the alternatives that include MOX fuel would not be to compete with traditional LEU fuel or renewable energy sources. DOE acknowledges the commentator's opposition to the production and use of plutonium. As discussed in Section 1.2, the goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner.

CITIZENS FOR ENVIRONMENTAL JUSTICE
MILDRED McCLAIN
PAGE 1 OF 1

Rev. Vernell Carrer
Convener



Dr. Mildred McClain
Executive Director

September 14, 1998

Mr. G. Bert Stevenson
NEPA Compliance Officer
Office of Fissile Materials Disposition
P.O. Box 23786
Washington, DC 20026-3786

Dear Mr. Stevenson,

This letter is requesting that the Department of Energy not to make a decision regarding the Surplus Plutonium Disposition Draft Environmental Impact Statement without the input of the environmental justice communities. We are aware that the Savannah River Site Citizen's Advisory Board and DOE sponsored their own workshop with over 1,100 community representatives attending. Unfortunately, those who attended the workshop did not represent the People of Color and disenfranchised communities.

We believe that the, September 16, 1998 comment period ending date for the Surplus Plutonium Disposition Draft Environmental Impact Statement is too soon. This is a formal request for the comment period to be extended beyond its cut off date so that the environmental justice communities, the communities that will directly be affected by this EIS, will be able to make a formal reply.

Working for environmental justice everywhere,

Dr. Mildred McClain
Executive Director

MM/dle

1115 HABERSHAM STREET • SAVANNAH, GEORGIA 31401 • PHONE: (912) 233-0907 • FAX: (912) 233-5105

FD316

FD316-1

Environmental Justice

A public hearing on the SPD Draft EIS was held in North Augusta, South Carolina, on August 13, 1998. A special outreach effort was made to make "People of Color and disenfranchised communities" aware of the hearing. This was done by advertising in print media and on radio stations recommended by organizations that represent these communities. Further, special transportation support was offered to ensure that members of these communities were able to attend the hearing, and the hearing was held after normal working hours so that they would not have to miss work. Copies of the SPD Draft EIS were mailed to members of these communities, as well as organizations that represent them, in advance of the hearing. In addition to the hearing, DOE provided several other means to solicit comments: mail, a toll-free telephone and fax line, and the MD Web site.

A period of 60 days was allowed for public comment on the SPD Draft EIS, and DOE accepted comments submitted by various means: public hearings, mail, a toll-free telephone and fax line, and the MD Web site. Although it did not extend the comment period, DOE did consider all comments received after the close of that period. All comments were given equal consideration and responded to. As shown in Chapter 4 of Volume I, implementation of the alternatives for disposition of surplus plutonium at SRS would likely pose no significant risk to public health regardless of the minority and economic status of individuals in the population. Chapter 4 also includes Environmental Justice sections for all alternatives on the potential impacts on minority or low-income populations. Appendix M describes the process that was used to determine these impacts.

CITIZENS FOR ENVIRONMENTAL JUSTICE
MILDRED McCLAIN
PAGE 1 OF 10

Rev. Vernell Cutter
 Convenor



Dr. Mildred McClain
 Executive Director

October 5, 1998

Mr. G. Bert Stevenson
 NEPA Compliance Officer
 Office of Fissile Materials Disposition
 U.S. Department of Energy
 P.O. Box 23786
 Washington, DC 20026-3786

Re: Surplus Plutonium Disposition Draft Environmental Impact Statement DOE/EIS-0283-D

Dear Mr. Stevenson,

Citizens For Environmental Justice (CFEJ) conducted eight workshops on the Department of Energy (DOE) proposed activity associated with the disposition of surplus plutonium, for communities traditionally not involved in the decision-making process related to federal facilities like Savannah River Site (SRS). These workshops held in Augusta, Waynesboro and Savannah in Georgia, and Barnwell and Ridgeland in South Carolina focussed on two areas 1) **providing information** and 2) **gathering input from communities**.

The first series of workshops were conducted in August 1997 and the follow-up workshops occurred in September 1998. Two hundred fifty-one people have participated in these workshops.

The concerns and recommendations contained in this document represent the input from primarily African American stakeholders, but also include the views of those from the general community. Input was collected from the workshops, interviews and telephone surveys. Interviews and surveys were conducted with stakeholders unable to attend the workshops, but expressed an interest in having their voice represented in our formal response to DOE on the Surplus Plutonium Disposition Draft Environmental Impact Statement (EIS). Twelve interviews and thirty telephone surveys were conducted.

It is important to note that many stakeholders that we dialogued with expressed two main concerns about the EIS 1) not having enough time to respond to such lengthy, complex

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MD332-1

General SPD EIS and NEPA Process

The public comment period on the SPD Draft EIS was extended from 45 days to 60 days. During this comment period, public hearings were held in areas that would be directly affected by implementation of the alternatives. DOE also accepted comments submitted by various other means: mail, a toll-free telephone and fax line, and the MD Web site. The various channels of communication were open to all interested individuals and organizations, and provided for regional and nationwide comment on the EIS. DOE did consider all comments received after the close of that period. All comments were given equal consideration and responded to.

The *Summary* of this SPD EIS provides an overview of the proposed actions and their potential impacts, and Section 2.18 provides, in layman's terms, a summary of impacts by alternative. As discussed in Chapter 4 of Volume I, implementation of the alternatives would pose no significant risk to human health or the environment downstream from the proposed facilities during normal operations.

Plutonium Recommendations Letter
Page 2 of 5

documents and 2) a lack of a simplified summary that covered all important elements in layman's terms. Downstream communities also expressed concern over the lack of public meetings being held in their communities. The schedule of public meetings did not encourage the participation and involvement of downstream and downwind communities "that generally bear liabilities, but no economic benefits; and to skew the public opinion curve in favor of DOE proposals".

Regional hearings should have been held in Savannah, Georgia and Columbia, South Carolina. The SRS is the preferred candidate site for all three new plutonium processing facilities. Real impacts on the Savannah River from SRS operations and accidents are well documented, with the most notable being the December 1991 tritium leak that quickly reached Savannah, Georgia. How can DOE justify not holding regional hearings in the Savannah River region? Because of the abundant uncertainties and what is at stake, we strongly recognize "a continued need to subject Federal plutonium proposals to the highest and most rigorous levels of public debate possible".

The National Environmental Policy Act (NEPA) requires federal agencies to insure that high quality "environmental information is available to public officials and citizens before decisions are made and before actions are taken," and that there is substantial and meaningful involvement in the planning and decision process. By restricting public hearings to a few communities and excluding potentially affected communities DOE is violating the spirit and the letter of NEPA.

Community Concerns

The following is a list of major concerns expressed by community stakeholders:

1. How will the unproven technologies that will be used in the plutonium pit processing facility be tested and validated with public input?
2. What increase in tritium emissions would occur as a result of locating a Plutonium Pit Disassembly and Conversion Facility at SRS and what would the impact be on the air and/or water?
3. How will DOE collect input from nuclear reactor communities on selection of reactor sites for plutonium irradiation facilities (irradiation of MOX fuel)?
4. What will be done to train medical facilities' personnel to handle exposure problems in the event of an accident? Local emergency responders?
5. What security measures will be implemented for communities near SRS to protect against possible terrorists attack?

MD332

MD332-2

Pit Disassembly and Conversion

The technologies to be used in the pit conversion facility are not unproven. They are, for the most part, technologies that have been used for some time by DOE to perform different functions. DOE is now engaged in a demonstration project that will bring these technologies together in one place so that the engineering design and performance parameters of various types of pits can be determined (*Pit Disassembly and Conversion Demonstration EA* [DOE/EA-1207, August 1998]). This would allow DOE to design and operate a pit conversion facility in a safe and efficient manner. Since 1994, the public has been involved in providing input to the decisionmakers on how to proceed with the disposition of surplus plutonium. The pit conversion facility has been part of a large number of environmental reviews and technical, economic, and nonproliferation studies that have been made public and for which DOE has solicited comments.

MD332-3

Air Quality and Noise

Appendix J was revised to include expected radiological release quantities from the proposed surplus plutonium disposition facilities. Appendix J.4.2.1 presents the expected radiological release quantities for the pit conversion facility at SRS. The radiological impacts on air at SRS are discussed in Section 4.4.2.4 for Alternative 3 and in corresponding sections for the other alternatives. Impacts on water at SRS are discussed in Section 4.26.4.2.

MD332-4

MOXRFP

The SPD Final EIS was not issued until the proposed reactors had been identified and the public had an opportunity to comment on the reactor-specific information. As part of the procurement process, bidders were asked to provide environmental information to support their proposals. This information was analyzed in an Environmental Critique prepared for the DOE source selection board prior to award of the MOX fuel fabrication and irradiation services contract. DOE then prepared an Environmental Synopsis on the basis of the Environmental Critique, which was released to the public as Appendix P of the *Supplement to the SPD Draft EIS* in April 1999. This *Supplement* included a description of the affected environment around the three proposed reactor sites, and analyses of the potential environmental

impacts of operating these reactors using MOX fuel (Sections 3.7 and 4.28 of this SPD EIS, respectively). During the 45-day period for public comment on the *Supplement*, DOE held a public hearing in Washington, D.C., on June 15, 1999, and invited comments. Responses to those comments are provided in Volume III, Chapter 4.

MD332-5

Facility Accidents

As discussed in the Emergency Preparedness sections in Chapter 3 of Volume I, each candidate site has an established emergency management program that would be activated in the event of an accident. Based on the decisions made in the SPD EIS ROD, site emergency management programs would be modified to consider new accidents not in the current program. These modifications would include training medical facilities' personnel and local emergency responders in accordance with DOE Order 151.1, *Comprehensive Emergency Management System*.

MD332-6

DOE Policy

In order to address security against terrorist-related incidents, all intersite shipments of plutonium for the surplus plutonium disposition program would be made using DOE's SST/SGT system. This involves having couriers that are armed Federal officers, an armored tractor to protect the crew from attack, and specially designed escort vehicles containing advanced communications equipment and additional couriers. Further, the disposition facilities proposed in this SPD EIS are all at locations where plutonium would have the levels of protection and control required by applicable DOE safeguards and security directives. Site personnel work with local, State, and Federal emergency responders and authorities and have plans and procedures in place to ensure appropriate and prompt coordination of efforts when responding to terrorist threats.

The remainder of this comment is addressed in response MD332-5.

Plutonium Recommendations Letter
 Page 3 of 5

6. How will the amount of water used from the Savannah River affect communities and the fishing? How would water be cleaned if there was a leak? How would the concept of "containment with the least amount of water" be assured?	7
7. What is the training for transportation personnel and how are they selected?	8
8. Are SRS and DOE prepared for negative outcomes?	9
9. Is adequate funding available for the implementation of all proposals, which includes outreach and public education?	10
10. How will issues associated with transportation be addressed?	
<ul style="list-style-type: none"> • Routes • Community/local government and authorities readiness • Informing communities 	11
11. How will communities monitor the secret transportation routes? How will the communities be alerted?	
12. In what processes will the Savannah River water be used?	7
Other significant concerns include:	
13. Increased exposure to workers, communities, and environment.	12
14. The impact of gallium (corrosion of the metal).	13
15. Health risks.	12
16. Community plans not in place.	5
17. Location of commercial reactors.	14
18. Cost of MOX.	15
19. Community right-to-know.	16
20. Consistency of emergency training.	5
21. Training of youth regarding new technology.	17
22. Public outreach.	18
23. Equity issues.	1
24. Only the voice of stakeholders in favor of processes coming to SRS being heard.	19
25. Politics driving decisions rather than science and technology.	20
26. Criteria for decisions on the pit disassembly facility.	21

MD332

MD332-7

Water Resources

As described in Section 4.26.4.2, the proposed surplus plutonium disposition facilities at SRS would not use water from the Savannah River. Groundwater supplied by the central domestic water supply system would be used. There are redundant systems to prevent a release of contaminants from the proposed facilities. In addition, systems are included that continuously monitor for leaks, allowing early detection and response. If an accident were to release contaminants to the environment, containment and then cleanup would be conducted.

MD332-8

Transportation

DOE's Transportation Safeguards Division is responsible for selecting and training the couriers that operate and escort the SST/SGTs. To be considered for selection as a courier, one must pass a background investigation and receive DOE's highest security clearance, be certified to operate SST/SGTs, possess mental alertness, and meet physical performance requirements. Couriers are initially trained in firearms, tactics, and driving and receive specialized training in physical fitness, communications, radiation, and hazards/detection. The emergency management training for couriers includes the above-mentioned areas and nuclear weapons safety, hazardous materials safety, emergency response training, general firefighting, fire prevention, and explosive hazards.

MD332-9

DOE Policy

DOE acknowledges the commentor's concern regarding the safety of nuclear materials. Accident analyses for SRS are summarized in the Facility Accidents section in Chapter 4 of Volume I for alternatives that include SRS.

SRS has an emergency management program that includes emergency planning, preparedness, and response in the event of an accident. The Emergency Preparedness Facility at SRS provides overall direction and control for onsite responses to emergencies and coordinates with Federal, State, and local agencies and officials on the technical aspects of the emergency.

MD332-10**DOE Policy**

Funding for the surplus plutonium disposition program is appropriated annually by the U.S. Congress. DOE, in its 5-year budget plan, has notified both the Office of Management and Budget and the Congress about the funding level required to implement the surplus plutonium disposition program. This budget plan includes funds for maintaining the public outreach program. Since its creation, MD has supported a vigorous public participation policy and will continue to provide the public with information and maintain communication mechanisms (e.g., mail, a toll-free telephone and fax line, MD Web site) to facilitate public input.

MD332-11**Transportation**

The shipment of nuclear material (e.g., depleted uranium) using commercial carriers would be the subject of detailed transportation plans in which routes and specific processing locations would be discussed. These plans are coordinated with State, tribal, and local officials. The shipment of waste would be in accordance with the decisions reached on the *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste* (DOE/EIS-0200-F, May 1997) and the *WIPP Disposal Phase Final Supplemental EIS* (DOE/EIS-0026-S-2, September 1997).

The transportation of special nuclear materials is the subject of detailed planning with DOE's Transportation Safeguards Division. The dates and times that specific transportation routes would be used for special nuclear materials are classified information; however, the number of shipments that would be required, by location, has been included in this SPD EIS. Additional details are provided in *Fissile Materials Disposition Program SST/SGT Transportation Estimation* (SAND98-8244, June 1998), which is available on the MD Web site at <http://www.doe-md.com> or by calling (202) 586-5368.

The commentor's recommendations are consistent with DOE policy. As part of the development of a transportation plan, details of emergency preparedness, security, and coordination of DOE with local emergency response authorities would be addressed before any hazardous material was shipped. Any additional training or equipment needed would be provided as part of the planning process. In addition to direct Federal assistance to State, tribal, and local governments for maintaining emergency response programs, there are national emergency response plans under which DOE provides

radiological monitoring and assessment assistance. Under these plans, DOE provides technical advice and assistance to the State, tribal, and local agencies who might be involved in responding to a radiological incident. DOE anticipates that transportation of plutonium pits, nonpit plutonium, MOX fuel, and HEU (i.e., special nuclear materials) required to disposition surplus plutonium would be done through DOE's SST/SGT system. Appendix L.3.2 provides a description of this system. As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures or vehicle emissions are expected.

MD332-12

Human Health Risk

All potential impacts are addressed in detail for each alternative in Chapter 4 of Volume I. The SRS Cumulative Impacts section (Section 4.32.4.4) provides information about incremental exposures that may be associated with surplus plutonium disposition activities.

MD332-13

Plutonium Polishing and Aqueous Processing

At the time DOE issued the SPD Draft EIS, it believed the gallium content in the plutonium dioxide feed specifications for MOX fuel could be reached using the dry, thermal gallium removal method included in the pit conversion process. However, in response to public interest on this topic and to ensure adequate NEPA review in the event that the gallium specification could not be met with the thermal process, an evaluation of the potential environmental impacts of including a small-scale aqueous process (referred to as plutonium polishing) as part of either the pit conversion or MOX facility was presented in Appendix N of the SPD Draft EIS.

On the basis of public comments received on the SPD Draft EIS, and the analysis performed as part of the MOX procurement, DOE has included plutonium polishing as a component of the MOX facility to ensure adequate impurity removal from the plutonium dioxide in order to eliminate the concern of gallium reacting with the zirconium metal of the MOX fuel rods. Appendix N was deleted from the SPD Final EIS, and the impacts discussed therein were added to the impacts sections presented for the MOX facility in Chapter 4 of Volume I. Section 2.4.3 was also revised to include the impacts associated with plutonium polishing. While it is true that plutonium polishing would

add to the amount of LLW and TRU waste generated, this amount of waste should be a small fraction of the total amount of these waste types generated at the candidate sites. For example, at SRS, which is the preferred site for the MOX facility, the addition of the plutonium-polishing process would be expected to increase the site's projected generation of LLW and TRU waste by less than 1 percent and 2 percent, respectively. Section 4.32.4 discusses the cumulative impacts of the proposed action at SRS; Sections 4.32.1, 4.32.2, and 4.32.3, the cumulative impacts of the proposed action at Hanford, INEEL, and Pantex, respectively.

The commentor is correct in stating that the use of plutonium would require a license modification, but the modifications needed at the reactors and to handle the spent fuel are expected to be small. Any required reactor modifications would, nevertheless, be conducted in accordance with associated NRC license modification procedures. Section 4.28 was revised to provide reactor-specific analyses.

The purpose of the Comment Response Document is to address comments on environmental impact issues considered in this SPD EIS. The portion of this comment relating to cost has been forwarded to the cost analysis team for consideration. The *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, is available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

MD332-14

MOX Approach

The SPD Final EIS was not issued until the proposed reactors had been identified and the public had an opportunity to comment on the reactor-specific information. As part of the procurement process, bidders were asked to provide environmental information to support their proposals. This information was analyzed in an Environmental Critique prepared for the DOE source selection board prior to award of the MOX fuel fabrication and irradiation services contract. DOE then prepared an Environmental Synopsis on the basis of the Environmental Critique, which was released to the public as Appendix P of the *Supplement to the SPD Draft EIS* in April 1999. This *Supplement* included a description of the affected environment around the

three proposed reactor sites, and analyses of the potential environmental impacts of operating these reactors using MOX fuel (Sections 3.7 and 4.28 of this SPD EIS, respectively). During the 45-day period for public comment on the *Supplement*, DOE held a public hearing in Washington, D.C., on June 15, 1999, and invited comments. Responses to those comments are provided in Volume III, Chapter 4. The reactors selected as a result of the procurement are Catawba in York, South Carolina; McGuire in Huntersville, North Carolina; and North Anna in Mineral, Virginia.

MD332-15

Cost

This comment is addressed in response MD332-13.

MD332-16

Candidate Sites

The Emergency Planning and Community Right-to-Know Act is listed in Chapter 5. Activities for the surplus plutonium disposition program would be conducted in accordance with all applicable regulations, including community right-to-know laws.

MD332-17

Other

The DOE Education in Science, Technology, Energy, Engineering, and Math (ESTEEM) program offers a wide range of technology-, math-, and science-related education programs for students at various grade levels. Information on ESTEEM, including types of activities offered and points of contact, can be obtained on the Web at <http://www.sandia.gov/ESTEEM/home.htm> or by contacting Samuel Rodriguez, Assistant Director of Science for Communications and Science Education and Chair, DOE's ESTEEM Education Council, by email at: Samuel.Rodriguez@oer.doe.gov or by phone at: (202) 586-7141.

MD332-18

General SPD EIS and NEPA Process

Each of the DOE candidate sites that could be involved in the surplus plutonium disposition program conducts public outreach and education programs in the surrounding communities, and all have a Citizens' Advisory Board.

The remainder of this comment is addressed in response MD332-1.

MD332-19**Environmental Justice**

Per the commentor's recommendation, Section S.7 of the *Summary* was revised to include the results of DOE's analysis of environmental justice concerns. Chapter 4 of Volume I includes Environmental Justice sections, which provide analyses of the potential impacts on minority or low-income populations for each of the alternatives considered. Appendix M describes the process that was used to determine these impacts and gives additional detail on the minority and low-income populations surrounding each of the candidate sites.

MD332-20**DOE Policy**

DOE acknowledges the commentor's concern regarding the drivers in the decisionmaking process for locating the surplus plutonium disposition program at SRS. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

MD332-21**DOE Policy**

DOE acknowledges the commentor's concern regarding the criteria used in the decisionmaking process for locating the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure.

Plutonium Recommendations Letter
 Page 4 of 5

Recommendations

Based on the information presented and the concerns expressed the communities recommend the following:

I. Translate information in the EIS into everyday language.		1
II. Include summary of environmental justice analysis in the Executive Summary.		19
III. Conduct public meetings in all areas where citizens may be affected/conduct special sessions for youth.		18
IV. Work with local community based organizations to conduct outreach and public education activities.		
V. Provide emergency training for communities near selected site and those on transportation routes (police department, fire department, hospitals, Local Emergency Planning Committees, etc.).		5
VI. Train the communities in terminology associated with the EIS		
◆ Spent Nuclear Fuel ◆ fission ◆ Pit Disassembly		
◆ plutonium ◆ disposition ◆ conversion		1
◆ uranium ◆ basins/tanks ◆ reactors		
◆ chemical separations ◆ MOX ◆ robotics		
VII. Test the technology (MOX)		22
VIII. Create community monitoring panels		18
IX. Provide a detailed analysis of potential impacts on Savannah, GA and other downstream communities. Each community should have a booklet just on its area.		23
X. Notify communities/insure emergency plan.		5
XI. Conduct open public debate on the EIS.		1
XII. Summarize environmental justice analysis in separate document.		19
Finally, our most significant recommendation focuses on the issue of gallium.		
XIII. Potential actions being evaluated by the DOE for surplus plutonium disposition must address the issue of gallium residue in the conversion of plutonium into fuel in civilian reactors. It is reported by nuclear weapons scientists that not only will gallium interfere with the conversion, but will also cause 1) chemical problems after the fuel is used, and add an additional \$200 million (to remove gallium) to the \$1 billion cost to convert the plutonium into fuel.		13

MD332

MD332-22

MOX Approach

The use of MOX fuel in domestic, commercial reactors is not a new concept. The fabrication of MOX fuel and its use in commercial reactors have been accomplished in Western Europe, and electricity was generated on a demonstration basis in the United States in the late 1970s. Several U.S. commercial reactors were designed to use MOX fuel, and others can easily and safely accommodate a partial MOX fuel core. The lead assemblies for test irradiation would be inserted into selected reactors as part of the fuel qualification program before full-scale operation was undertaken (see Section 2.17).

MD332-23

General SPD EIS and NEPA Process

This SPD EIS does provide analyses of the potential impacts of implementing each of the alternatives considered. Those analyses show that the disposition of surplus plutonium would have no significant environmental impacts on Savannah, Georgia, or other communities on the Savannah River from normal operations. The *Summary* of the SPD EIS can be used as the suggested booklet.

Symposium
June 10, 1998 Clark County Library Las Vegas Nevada

GEORGIA CAROLINA COURIER



505 Courthouse Lane
Augusta, Ga. 30901



July 1998

I. SPOOKED SPOOKED SPOOKED

Top billing for the current spooky story goes to the Wall Street Journal's April 28th, 1998 headline, "U.S. Admits Its Jets Harmed Horses." This story reported that:

The U.S. conceded that noise caused by its jet fighters injured racehorses in November, during Japan-U.S. military drills off Cape Erimo in southern Hokkaido. The bureau said the two governments must jointly compensate owners for the damage in line with the bilateral Status-of-Forces Agreement."

The GAO/NSIAD-98-66, Mar. 2 release Overseas presence: Issues Involved in Reducing the Impact of the U.S. Military Presence in Okinawa is also spooky. This story reported that:

A new U.S.-Japanese agreement to reduce the American military presence on Okinawa includes replacing a Marine air station with a new \$4 billion sea-based facility and paid for by Japan. Operating costs for the new facility are estimated at nearly \$200 million a year, much higher than costs for the existing air station. Japan has been asked to pay these costs but has yet to agree. GAO raises the issue of responsibility for cleaning up any environmental contamination at the military facilities being returned to Japan. Also, the construction and operation of the sea-based facility could have harmful consequences for the environment.

Inquiries from our publication regarding these reports directed to Congressman Norwood and copied to Senator Cleland remain unanswered. The U.S. EPA library services reports no information on these reports regarding their

1

FD231

FD231-1

DOE Policy

DOE acknowledges the commentor's concern regarding NRC regulation of DOE facilities. Because NRC regulations are beyond the scope of this SPD EIS, this comment has been forwarded to the DOE team addressing external regulation and to the DOE Savannah River Operations office.

PAYMENTS TO UTILITIES NO LONGER GENERATING ELECTRICITY

	Total Payment
Dairyland Power Coop	193,000
Public Service Co. of Colorado	26,000
Sacramento Mun. Util. Dist.	1,221,000
Yankee Atomic Elec. Co.	1,025,000
Portland General Electric	<u>5,006,000</u>
GRAND TOTAL*	\$7,473,000

* Does not reflect utility fee credits. Includes rounding.

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One-Time Fee Outstanding As of 03/31/1998, (\$000)

State	Utility Name	Option	One Time Fee Owed	One Time Fee Interest Owed	TOTAL
Arkansas	Entergy Arkansas	2	49,149	76,055	125,192
Connecticut	Connecticut Yankee	2	48,726	74,810	123,537
Connecticut	Northeast Utilities	2	82,108	126,061	208,169
Illinois	Commonwealth Edison	2	276,792	424,964	701,756
Maine	Maine Yankee	2	50,394	77,959	128,353
Michigan	American Electric Power	2	71,964	111,328	183,291
Michigan	Consumers Power	2	44,286	68,511	112,797
New Jersey	GPU Nuclear	1	47,417	73,354	120,771
New York	New York Power Authority	2	58,710	90,823	149,533
New York	Niagara Mohawk	2	45,499	70,387	115,886
Ohio	Rochester Gas & Electric	2	31,134	51,258	84,392
Ohio	Toledo Edison	2	8,875	13,750	22,625
Pennsylvania	GPU Nuclear	1	24,150	37,560	61,710
Vermont	Vermont Yankee	2	39,285	60,773	100,058
	TOTAL		880,489	1,357,351	2,237,840

Option 1- Payments over 40 quarters to be completed prior to first scheduled delivery date
 Option 2- Single payment prior to first delivery

Exhibit B

RYAN LABS, INC. PORTFOLIO TRADE BLOTTER
 AUTHORIZED BY: *[Signature]*

Client:	DEPARTMENT OF ENERGY	Submitter Date:	4/28/98	Portfolio Name:	MATCH FUND	Page 1 of 1
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Duration Cdt	Cusip	Buy Par	Issue Description	Sell Par	Comments
15	912833KA7	350,000,000	S 5/15/13		
17	912833KR9	625,000,000	S 5/15/15		
			OR		

GENERAL NOTES:

Exhibit C

§ 961.4

Owner means any person who has title to spent nuclear fuel or high-level radioactive waste.
Purchaser means any person, other than a Federal agency, who is licensed by the Nuclear Regulatory Commission to use a utilization or production facility under the authority of sections 103 or 104 of the Atomic Energy Act of 1954 (42 U.S.C. 2133, 2134) or who has title to spent nuclear fuel or high level radioactive waste and who has executed a contract with DOE.
Secretary means the Secretary of Energy of this designee.
Other definitions relating to the subject matter of this rule are set forth in Article II of the contract which is contained in § 961.1. Text of the contract, of this part.

§ 961.4 Deviations

Requests for authority to deviate from this part shall be submitted in writing to the Contracting Officer, who shall forward the request for approval to the Senior Procurement Official, Headquarters. Each request for deviation shall contain the following information:

- (a) A statement of the deviation desired, including identification of the specific paragraph number(s) of the contract;
- (b) A description of the intended effect of the deviation;
- (c) The reason why the deviation is considered necessary or would be in the best interests of the Government;
- (d) The name of the owner or generator seeking the deviation and nuclear power reactor affected;
- (e) A statement of whether the deviation has been requested previously and, if so, circumstances of the previous request;
- (f) A statement of the period of time for which the deviation is needed; and
- (g) Any pertinent background information will contribute to a full understanding of the desired deviation.

§ 961.5 Federal agencies.

Federal agencies or departments requiring DOE's disposal services for spent nuclear fuel or high level radioactive waste and/or HLW will be accommodated by a suitable interagency agreement reflecting, as appropriate, the terms and conditions set forth in the contract

10 CFR Ch. III (1-1-96 Edition)

in § 961.11. *Provided, however*, that the fees to be paid by Federal agencies will be equivalent to the fees that would be paid under the contract.

Subpart B—Standard Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste

§ 961.11 Text of the contract

The text of the standard contract for disposal of spent nuclear fuel and/or high-level radioactive waste follows:

U.S. DEPARTMENT OF ENERGY CONTRACT NO. _____

Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste

THIS CONTRACT, entered into this ____ day of _____, 19____, between the UNITED STATES OF AMERICA (hereinafter referred to as the "Government"), represented by the UNITED STATES DEPARTMENT OF ENERGY (hereinafter referred to as "DOE") and _____, hereinafter referred to as the "Contractor", a corporation organized and existing under the laws of the State of _____, is made as applicable, acting on behalf of itself and _____.

Witnesseth that:

Whereas, the DOE has the responsibility for the disposal of spent nuclear fuel and high-level radioactive waste of domestic origin from civil nuclear power reactors in order to protect the public health and safety and the environment; and

Whereas, the DOE has the responsibility, following commencement of operation of a repository, to take title to the spent nuclear fuel or high-level radioactive waste involved as expeditiously as practicable upon the receipt of the spent nuclear fuel and/or high-level radioactive waste; and

Whereas, all costs associated with the preparation, transportation, and the disposal of spent nuclear fuel and high-level radioactive waste from civilian nuclear power reactors shall be borne by the owners and generators of such reactors;

Whereas, the DOE is required to collect a full cost recovery fee from owners and generators delivering to the DOE such spent nuclear fuel and/or high level radioactive waste; and

Whereas, the DOE is authorized to enter into contracts for the permanent disposal of spent nuclear fuel and/or high level radioactive waste of domestic origin in DOE facilities; and

Whereas, the Purchaser desires to obtain disposal services from DOE; and

Department of Energy

§ 961.11

Whereas, DOE is obligated and willing to provide such disposal services, under the terms and conditions hereinafter set forth; and

Whereas, this contract is made and entered into under the authority of the DOE Organization Act (Pub. L. 95-91, 42 U.S.C. 7101 et seq.) and the Nuclear Waste Policy Act of 1982 (Pub. L. 97-425, 42 U.S.C. 10101 et seq.);

Now, therefore, the parties hereto do hereby agree as follows:

ARTICLE I—DEFINITIONS

As used throughout this contract, the following terms shall have the meanings set forth below:

1. The term *assigned three-month period* means the period that each Purchaser will be assigned by DOE, giving due consideration to the Purchaser's assignment preference, for purposes of reporting kilowatt hours generated by the Purchaser's nuclear power reactor and for establishing fees due and payable to DOE.

2. The term *cost* means a container for shipping spent nuclear fuel and/or high-level radioactive waste which meets all applicable regulatory requirements.

3. The term *civilian nuclear power reactor* means a civilian nuclear powerplant required to be licensed under sections 103 or 104(b) of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2133, 2104(b)).

4. The term *Commission* means the United States Nuclear Regulatory Commission.

5. The term *contract* means this agreement and any duly executed amendment or modification thereto.

6. The term *Contracting Officer* means the person executing this contract on behalf of the Government, and any other officer or civilian employee who is a properly designated Contracting Officer of the DOE; and the term includes, except as otherwise provided in this contract, the authorized representative of a Contracting Officer acting within the limits of his authority.

7. The term *delivery* means the transfer of custody, f.o.b. carrier, of spent nuclear fuel or high-level radioactive waste from Purchaser to DOE at the Purchaser's civilian nuclear power reactor or such other domestic site as may be designated by the Purchaser and approved by DOE.

8. The term *disposal* means the emplacement in a repository of high-level radioactive waste, spent nuclear fuel, or other highly radioactive waste with no foreseeable intent of recovery, whether or not such emplacement permits recovery of such waste.

9. The term *DOE* means the United States Department of Energy or any duly authorized representative thereof, including the Contracting Officer.

10. The term *DOE facility* means a facility operated by or on behalf of DOE for the purpose of disposing of spent nuclear fuel and/or

high-level radioactive waste, or such other facility(ies) to which spent nuclear fuel and/or high-level radioactive waste may be shipped by DOE prior to its transportation to a disposal facility.

11. The term *full cost recovery* means the recoupment by DOE, through Purchaser fees and any interest earned, of all direct costs, indirect costs, and all allocable overhead, consistent with generally accepted accounting principles consistently applied, of providing disposal services and conducting activities authorized by the Nuclear Waste Policy Act of 1982 (Pub. L. 97-425). As used herein, the term *cost* includes the application of Nuclear Waste Fund moneys for those uses expressly set forth in section 302 (d) and (e) of the said Act and all other uses specified in the Act.

12. The term *high-level radioactive waste (HLW)* means—

(a) the highly radioactive material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations; and

(b) other highly radioactive material that the Commission, consistent with existing law, determines by rule requires permanent isolation.

13. The term *electricity (kilowatt hours) generated and sold* means gross electrical output produced by a civilian nuclear power reactor measured at the output terminals of the turbine generator minus the normal onsite nuclear station service loads during the time electricity is being generated multiplied by the total energy adjustment factor. For purposes of this provision, the following definition shall apply:

a. The term *Total Energy Adjustment Factor (TEAF)* means the sum of individual owners' weighted energy adjustment factors.

b. The term *Weighted Energy Adjustment Factor (WEAF)* means the product of an owner's energy adjustment factor times the owner's share of the plant.

c. The term *Owner's Energy Adjustment Factor (OEAF)* means the sum of the individual owner's adjustment for sales to ultimate consumers and adjustment for sales for resale.

d. The term *Owner's Share of the plant (OS)* means the owner's fraction of metered electricity sales, the owner's fraction of plant ownership, or the sponsor company's fixed entitlement percentage of the plant's output. This definition includes joint owners of generating companies or participants in a generation and transmission cooperative.

a. The term *Adjustment for Sales to ultimate Consumer (ASC)* means the owner's fraction of sales to the ultimate consumer multiplied by the owner's sales to ultimate consumer adjustment factor.

Exhibit E

Historical Nuclear Weapons Test Film Festival
Clark County Library, 1401 E. Flamingo, Las Vegas, NV

June 10, 1998

- 11:30 a.m. - 12:30 p.m. Footage from Nevada Test site historical operations -- "Operation Buster/Jungle" and "Operation Tumbler-Shipper"
- 12:35 p.m. - 1:25 p.m. Film Set Overview -- 30 to 45 second clips from each video currently available, including the new set of films being released today.
- 1:30 p.m. - 2:15 p.m. Footage from peaceful nuclear explosions in Nevada, New Mexico, and Colorado -- "Nuclear Excavation, Excavating with Nuclear Explosives", "Plowshare", and "Project Rulison".
- 2:25 p.m. - 3:15 p.m. "Atomic Filmmakers" -- Learn about Hollywoods Top Secret film studio and the cameramen who worked the photographing nuclear weapons tests from 1945 until 1963. This video is produced and directed by Peter Kuran, the filmmaker for the award winning motion picture "Trinity and Beyond".
- 3:20 p.m. - 4:10 p.m. "The Little Ship"-- 1962 British film which describes the United Kingdom's first nuclear detonation: "Target Nevada" -- a Lookout Mountain film about the Nevada Test Site, and footage from Civil Defense test operations at the Nevada Test Site including nuclear explosion effects on bomb shelters, electrical substations, propane storage tanks, weigh stations, cars, family houses, and marnequins.
- 4:15 p.m. - 5:00 p.m. Two new films -- "Exercise Desert Rock" and "Tonopah Test Range".
- 5:00 p.m. - 6:00 p.m. BREAK
- 6:00 p.m. - 6:15 p.m. Welcome and introduction of guest speakers -- Pat Badin, Classification Officer, U.S. Department of Energy, Nevada Operations Office.
- 6:15 p.m. - 6:40 p.m. Film Declassification Project -- Charles Demus, Classification Officer, U.S. Department of Energy, Albuquerque Operations Office.
- 6:40 p.m. - 8:00 p.m. Atomic Cinematographers -- Peter Kuran, director/producer of "Trinity and Beyond" showing excerpts from the famous movie, as well as from "Doomtown", and discussing restoration efforts for old, deteriorating films.

Throughout the day, there will be exhibits, promotional material available, and interactive demonstrations.

FD231

GEORGIA-CAROLINA COURIER
PATRICIA C. McCracken, Editor
OFFICE (706) 738-9451
FAX (706) 738-0637

Exhibit

Nuclear Waste Fund Status
(Billions of dollars, data as of September 30, 1997)

OCRWM Calculation:

Fees Paid	\$ 8.5
Investment Earnings	\$ 2.6
Total	\$11.1
Disbursements	\$ 4.9*
Net Balance	\$ 6.2

Utility Calculation:

Fees Paid	\$ 8.5
Investment Earnings	\$ 2.6
One Time Fees Accrued:	
Principal	\$ 0.9**
Interest	\$ 1.3**
Defense Fees Owed	\$ 1.0**
Total	\$14.3
Disbursements	\$ 4.9*
Net Balance	\$ 9.4

* Total NWF disbursements only, does not reflect DNWD disbursements of \$ 7B.
Total Program costs, including NWF & DNWD funding, through the end of FY 1997
equal \$5.6B

** The utility calculation includes one-time fees and interest not yet paid to the Nuclear
Waste Fund. It also includes the accrued fees that the Department owes to date for the
disposal of defense high-level waste, based upon cost share computed in the 1995 total
system life-cycle cost analysis.

FD231

GEORGIA-CAROLINA COURIER
PATRICIA McCRACKEN
PAGE 1 OF 4

To: Inspector General
 Department of Justice

From: Patricia McCracken
 Georgia-Carolina Courier
 413 Scotts Way
 Augusta, Georgia 30909
 706-738-9451
 fax 738-0637

August 12, 1998

Dear Sir:

The electric consumers of America have not been properly informed regarding the events associated with their Nuclear Waste Fund litigation.

This news organization has previously written to Mrs. Reno regarding the lack of information and legal spokespersons at major nuclear gatherings publicizing and promoting various legal positions that impact our nation. We should not have to depend on the reliability of nuclear tabloid publications or utility attorneys with current litigation against the government for our information.

We have requested press releases from the Justice Department in Washington concerning the Nuclear Waste Fund litigation for quite some time and have been unable to get any information from the press or public relations office. The DOE internet site could not locate any information with the search word lawsuits, nuclear etc. Meanwhile, it appears that lawsuits have been very active at the DOE and Justice. Interested persons attending the various public meetings at the DOE would have no reason to contact the Justice Department for information because that information has not been given through the many DOE outreach and public affairs offices.

Perhaps our United States Attorney's office in Augusta needs to represent the consumers and other government interests of our district. At the very least we would want them to review the pleadings, transcripts and decisions regarding electricity consumers. Furthermore, the Department of Energy's public comment documents and Environmental Impact Statements may not contain all the information known to the Justice Department and the Department of Energy because they are not being sent to the proper parties involved.

FD262

FD262-1

Other

DOE acknowledges the commentor's concerns about the NWWPA. The status of the Nuclear Waste Fund implementation is beyond the scope of this SPDEIS.

GEORGIA-CAROLINA COURIER

PATRICIA McCRACKEN

PAGE 2 OF 4

The Department of Defense has a law school. They should study this litigation. If the Justice Department has inadequate funding to defend the DOD, DOE and electric consumers then they could help in the endeavor. Some arrangement could be made regarding some payments they apparently owe to the Nuclear Waste Fund.

The consequences of the decision or decisions regarding the Northern States Power Company verses the United States appear to fall under the NEPA laws. We hope that all the information has been presented to the appropriate groups for action and review. This review should also include information gathered in discovery. If that information is being withheld because of litigation, then no Record of Decisions should be made without all the information known to the agencies. We wonder if various agencies have already made some Record of Decisions without all the necessary information to make a proper conclusion.

The General Accounting Office and other Congressional reporting groups seem to differ on the status of the Nuclear Waste Fund. We hope that the Justice Department and our public attorneys have been able to investigate the status of the fund now involved in litigation. We do not believe that the Justice Department has received all the information or proper expert consultation to conduct this case. We would all like to review the positions of our attorneys and how well and courteously they are being treated by our judges at hearings, but apparently no transcripts are available.

Our news organization has been suspicious that the government's funding for our defense may be inadequate. The complexity of the NWF requires much staffing. We are quite puzzled as to some of the information we have received under FOIA requests regarding your litigation connected to the Nuclear Waste Fund. Some of the questions are quite obvious even to an untutored investigator. We certainly hope that our judges are asking some questions.

Our news organization has been seeking the actual legal documents regarding the Northern States Power Company litigation and any other litigation regarding the Nuclear Waste Fund. It appears that the only way to find out what is really going on in these cases. I would appreciate assistance in obtaining the pleadings, transcripts, discovery and decisions regarding these cases. Also we would like to know if the attorneys were citizens of the United States and their qualifications for such an important case.

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We have obtained some verbal information that indicates that our government has not been very successful in the courts. Your strategy team might want to set up a task force of US attorneys to help with this strategy.

Our current verbal information regarding the status of the Northern States Power Company versus the United States of America indicates that the appeal time clock is ticking. We hope that our attorneys are clicking around and working on our case. Our appeal brief is due by September 2, 1998. Please check on the status of our legal representation. There may be some new information surfacing regarding this case.

The legal representatives for the Northern States Power Company appear to be rather "cocky" about their position at industry meetings. We would like to be sure that their position is correct.

We have learned that all the necessary information regarding the Nuclear Waste Fund litigation have not been received at the Justice legal department working on the case. We suspect that pertinent evidence lists and other information is not currently available at the Justice department for proper decision making sessions. Please check to see if the agency has all the necessary appeals consultants (and that representation reflects all stakeholders) to make a decision. Would you please expedite the legal departments need for information through some emergency fund. Please make that information available for press releases and the public. And please inform the persons or voice message instigators to have a system for inquiries.

Some persons might want to go and see who is representing the government and what questions were being asked at the proceedings. Today's media might even be interested in our officials fashion mode for litigation.

We would also appreciate some assistance and review of the activities of the Nuclear Regulatory Commission regarding their intent and actions developed from the Memorandum of Understanding Between the U.S. Department of Energy and the U.S. Nuclear Regulatory Commission dated 10/20/97 and the pilot programs external regulation. Portions of our comment dated August 12th. Work plan for the Receiving Basin for Offsite Fuels at the Savannah River Site draft June 25, 1998, under a public comment process states:

The NRC regulations call for antitrust language for Pre-licensing Antitrust Review of Production and Utilization facilities and to

GEORGIA-CAROLINA COURIER
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Effectuate Certain Other Purposes Pertaining to Nuclear Facilities. In accord with the intent of the NRC to facilitate competition, some review is in order to determine the degree in which your agency would become the monopoly for all the commercial and government nuclear facilities under the current activities outlined in the NRC Memorandum of Understanding between the DOE and NRC. Did the antitrust section of the Justice Department give any review of this work? They have historically notified NRC about such action in court cases. The public would like for the NRC to abide by the same guidelines as the Justice Department uses for other nuclear situations.

Some legal findings have even used language that can mean even setting up a situation that might lead to monopolization. This plan is a monopoly report without input from other agencies with responsibility at DOE. NRC is engaging in unfair monopoly reporting power without allowing access of other reports available in the government market or peer review in the proper fields. The appropriations set up a monopoly reporting power structure and the people are not protected from this monopoly. The work plan should be set up to remedy this situation. The NRC can use the same type of remedies that they have recommended themselves to other parties.

We urge the public get relief from the draft plan of the DOE/NRC.

According to some legal opinions, the Atomic Energy Act was amended by Congress to include a procedure whereby the Department of Justice is to notify the NRC if licensing might create or maintain a situation inconsistent with the antitrust laws.

Thank you for the opportunity to report some citizen comments about our government.

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 PATRICIA MCCrackEN
 PAGE 1 OF 6

To: DOE/NRC

From: Patricia McCracken
 413 Scotts Way
 Augusta, Georgia 30909
 706-738-9451

Re: Comments to the proposed Pilot Program on External Regulation of DOE Nuclear Facilities by the Nuclear Regulatory Commission and the public presentation of A document called Work Plan for The Receiving Basin for Offsite Fuels at the Savannah River Site Draft June 25, 1998

Without any formal federal register notices to refer for comment, comments can only relate to the handouts from NRC.

The title to this work plan does not reflect the description of the work plan. Your work plan is much more extensive than this title.

One would like to know your distribution list for your draft as those persons such as myself who attend the public meetings (and produce a newsletter) and comment were not on your mailing list. Mr. Robert Newman was contacted and he did not receive a draft for comment. He has made several presentations at the CAB meetings regarding compliance with DOE orders. He asked me to comment on his behalf and remind DOE of his participation at public meetings and the comment process.

The section of the CDC conducting health studies at SRS did not receive your notice for comment.

This fact alone raises some questions as to the persons at SRS and DOE that are supplying information for this report.

The handout does not seem to have the same format as public notice documents such as the federal register. The intent of the NRC to pursue a project at the Department of Energy must have some legal position statements but they have not been presented for public comment.

Appendix D's Authorization Basis does not appear to be complete for the legal scope. We all certainly would like the NRC to look at the anti-trust duties of the agency in reviewing some of the activity at SRS and proposed activity at SRS. We need more specific statutory basis to ensure that the agency covers all the issues important to stakeholders. NRC appears to be trying to establish a

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DOE Policy

DOE acknowledges the commentor's concern regarding NRC regulation of DOE facilities. Since NRC regulations are beyond the scope of this SPD EIS and the comments do not directly relate to the surplus plutonium disposition program, this comment has been forwarded to the DOE team addressing external regulation and to the DOE Savannah River Operations office.

monopoly regulatory agency, which would be in violation of its statutory duties.

We believe that you need permission from other agencies to conduct your work. This memorandum of understanding is suspected to be inappropriate for entry into a defense facility, especially with no Corps of Engineers signature.

We need to know the format for the database of information gathered (categorized to match each work plan section like a docket) for public review purposes. The CDC health studies group (SRS) has a format for collection and public review that is quite extensive and might serve as a model for this massive report.

The statutory authority of the NRC is apparently an issue often debated in the courts. Most of this plan (like page D-2 review, approval...fissionable material operations) is defense related and no related oversight persons are part of your task force. Efforts to contact the DOD oversight at Pentagon have been unsuccessful as their is no telephone answer. That could explain the situation.

The Congress has appropriated (special) money for the NRC to conduct some work at the DOE.

Congress has been utilizing the Nuclear Waste Fund consumers payments and interest to fund other projects such as this one. This does not appear to be legal. The DOE apparently borrows money to make payments to the NWF and then invests that money somewhere.

Your work plan and oversight duties should include an explanation of your funding. Is it part of the Nuclear Waste Fund? Please demonstrate that this money is not part of any of the money (with interest) Congress borrowed from the consumer fund.

The work plan presented does not give the signatures of the authorized representatives of each agency. The Memorandum of Understanding between the DOE and NRC is not presented with any signatures. We would like to know if the persons approving the work plan also approved the adequacy of the appropriation to conduct this work. Was the work plan presented to the persons making the recommendations for the money amounts? We would like the references for presentations.

We have made some inquiries as to the existence of documents

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that might relate to the subject matter of the pilot project. Many other sections of our government have some oversight regarding the DOE. We did not see any reference to accumulating any of that information. Surely, some of these groups have looked at the existing regulations in our country and perhaps some comparisons internationally. And surely Congress does not have to appropriate special money to check fire extinguishers. Who is checking them now?

The public through FOIA cannot ask for qualifications (DOE Decision and order case number VFA-0348 to Patricia McCracken) of the contractors and we would like to know if NRC will be able to get restricted information regarding the contracting process. Appendix B mentions some estimates of savings associated with using licensed/qualified subs. This term needs a better explanation.

The statements under potential outcomes is really a big policy change. For example, to seek transition of some or all DOE facilities to NRC regulation prior to completion of the NRC/DOE Pilot Program is definitely something that needs more documentation than this work plan. These types of statements trigger NEPA action. Your report did not address that issue.

Your draft did not address the NRC's ability to handle such a mission. The cart is before the horse. Your draft should be explaining your funding outside the commercial licensing process.

We do not know if your information database is secure. We do not know if you are using contractors and if any conflict of interest may exist. We do not know who has access to your reports. Are these reports suppose to be part of the classification system? You apparently have written several reports regarding other sites but no one is allowed to review your work. Stakeholders around SRS might want to review your work.

We do not understand how you are able to come to a defense facility and propose a review of receipt, transfer and inventory of radioactive materials. Please give some exact procedures for this task. Please site the names of the reports you will be using as manuals.

Section J concerns radioactive waste management including effluents and environmental monitoring. This work plan does not give the credentials of the persons or procedures as outlined in the federal register or what. Who will be doing such highly "science specific" assessments. It is

difficult to believe that the task force presented has all the qualifications to conduct such a massive study. OSHA persons might want to include NIOSH persons already doing work at the site.

The work plan leaves out a lot of details that are vaguely mentioned in the MOU which was not attached to the work plan. Of special importance is the MOU explanation of coordination activities. "DOE and NRC agree to enter into an interagency Agreement to reimburse NRC, where legally permitted and not otherwise covered by appropriations, for its agency cost associated with NRC activities to achieve the objectives of the MOU." DOE is currently borrowing money under the Nuclear Waste Fund program while loaning money from the fund. We would like to know the exact interest rate of both policies as it relates to paying NRC.

The part about legally permitted is not explained very well.

Some details regarding salaries is important as apparently the task force must have many credentials (not related in the work plan) and they do not need to be checking fire extinguishers at their payment rate.

Section K C-2 lists Transportation of Radioactive Materials with the scope of review that includes knowledge from shipment to packaging. Again this task force will need some input from other experts and those persons have not been named in this plan. This discussion could be described for so many of these broad outlines in the plan. We would like to request that NRC ask DOE where the transportation alternative plan is located for WHIPP or any other project. NRC would need that plan for reference.

This plan (C-3 O) Fire Protection Program states the review will include an assessment of the procedures for control of combustibles, inspection of portable fire extinguishers. Testing of emergency lights, inspection of chemical storage areas, emergency response and waste removal. The review will also include an assessment of the training requirements for the facility designated fire wardens. We all certainly want to see the trip reports and procedures used by this task force documenting that all these things were conducted by this group. That goes for all the other activities. What persons are already staffed to conduct these activities and why do they need you to help them? The state and local fire and emergency response persons could save you money and help in these projects.

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This work plan does not give specific check sheets to be used to assess the many programs and evaluations outlined. Your regulations probably provide guidelines for such forms utilized by your persons. In accordance with your regulations, we would want the same level of expertise assigned to each category as utilized by NRC and its hiring practices and proficiency levels. We would want all forms and evaluation categories signed by the staff person with his credentials for making such an evaluation and determination. The accounting part would be especially important and we would want it signed by a certified accountant.

The proposed environmental monitoring is not specific. Most of the outline appears to discuss the same issues that have been part of CAB meetings and other public meetings and other review groups. Are you starting these programs over? Your claim of an independent review needs some independent contractors outside the DOE if you are going to make such a claim.

Page 8 discusses defining similarities and differences between RGOF and other NRC licenses. The work plan should discuss your staff and the similarities and differences between what you are doing and what they are doing. Any reports should be very specific. The nature of the licensing of the NRC and DOE work are so different in scope that one has difficulty relating the integration.

The purpose of the Memorandum of Understanding to "simulate regulation" when NRC is prohibited from regulation of DOE is confusing. What was the policy for this exemption? Somebody must have had some reasons for this statutory language! IF NRC wants DOE to "gain experience", then develop a training program that NRC deems appropriate and present it to the public. Perhaps some debate is in order for who has had the most "experience" at what.

You may want to contact the Georgia Public Service Commission about training programs. Apparently under our new gas deregulation plan, new marketers who cannot collect delinquent accounts as well as the current gas company can be allowed special circumstances (write-offs I think) until they learn and get better at their new service.

This program will not "provide an opportunity to develop actual information on the costs and benefits of external regulation," because you do not (currently) have enough money

or staff to make the comparison. Your budget should be presented with any work plan.

The NRC regulations call for antitrust language for Prelicensing Antitrust Review of Production and Utilization Facilities and to Effectuate Certain Other Purposes Pertaining to Nuclear Facilities. In accord with the intent of the NRC to facilitate competition, some review is in order to determine the degree in which your agency would become the monopoly for all the commercial and government nuclear facilities under the current activities outlined in the NRC Memorandum of Understanding between the DOE and NRC. Did the antitrust section of the Justice Department give any review of this work? They have historically notified NRC about such action in court cases. The public would like for the NRC to abide by the same guidelines as the Justice Department uses for other nuclear situations.

Some legal findings have even used language that can mean even setting up a situation that might lead to monopolization. This plan is a monopoly report without input from other agencies with responsibility at DOE. NRC is engaging in unfair monopoly reporting power without allowing access of other reports available in the government market or peer review in the proper fields. The appropriations set up a monopoly reporting power structure and the people are not protected from this monopoly. The work plan should be set up to remedy this situation. The NRC can use the same type of remedies that they have recommended themselves to other parties.

We urge the public get relief from the draft plan of the DOE/NRC.

The work plan language and general intent for safety and protection are important and everyone wants to be sure that they are addressed with full input and peer review.

Thank you for the opportunity to comment on this important matter in our area. The information regarding this plan has not been fully sent to the public and we hope that more comment opportunity will exist.

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GEORGIA DEPARTMENT OF NATURAL RESOURCES
JAMES L. SETSER
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Georgia Department of Natural Resources

205 Butler St. S.E. , East Floyd Tower, Atlanta, Georgia 30334
Lemire C. Barrett, Commissioner
Harold F. Reheis, Director
Environmental Protection Division
(404) 656-4713

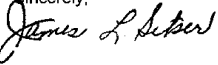
September 21, 1998

U. S. Department of Energy
Office of Fissile Materials Disposition
P.O. Box 23786
Washington, D. C. 20026-3786

Dear Sir or Madam:

The Environmental Protection Division (EPD) of the Georgia Department of Natural Resources (DNR) is pleased to provide the following comments on the "Surplus Plutonium Disposition Draft Environmental Impact Statement", DOE/EIS-0283-D. Attached you will find a discussion of issues related to the draft EIS that we feel are significant, as well as detailed page-by-page comments.

Thank you for the opportunity to comment on this document.

Sincerely,


James L. Setser, Chief
Program Coordination Branch

JLS:lm
Attachment

Georgia Environmental Protection Division
 Issues Related to
 Surplus Plutonium Disposition Draft Environmental Impact Statement (DEIS)
 DOE/EIS-0283-D

Use of Existing Facilities at Savannah River Site (SRS)

Many of the SRS alternatives involve utilization of the ageing facilities at SRS. Some of these facilities, particularly the F and H Canyons, have been in operation for more than 45 years. The risk of design-based accidents and the potential that a severe earthquake or other natural disaster such as a severe tornado could occur are of vital concern for the utilization of these facilities. Whereas new nuclear facilities are constructed to seismically withstand the forces of such natural disasters (i.e., 0.2g for a design-basis earthquake), the older facilities are not constructed according to these standards. The magnitude of such an earthquake would be expected to cause severe structural damage that could lead to partial structure collapse and unmitigated releases of radioactive and hazardous material to the environment.

1

Scheduling

The technology for immobilization of plutonium at SRS is unrealistic from a time schedule viewpoint. The purpose of the current Defense Waste Processing Facility (DWPF) at SRS is to convert the high level wastes in the tank farm to a borosilicate glass form which will be shipped to a National Repository when one becomes available. Because of DOE's failure to successfully conduct In Tank Precipitation (ITP) an ion-exchange system is being considered. If implemented, this system is expected to cost \$500 million and require between 6 and 14 years to implement. The ITF was initially completed in 1988 at a cost of \$32 million and now, more than \$500 million in estimated costs have been incurred and the facility is not operational. While DOE's expectations that all high level waste tanks be emptied and completely processed by 2020, the modifications to the DWPF and related operations for plutonium immobilization at SRS will most likely cause even further delay in processing the existing 32 million gallons of high level waste. This further delay raises the question of an increased risk to public health and safety due to a failure of the old carbon steel tanks that contain the high level radioactive waste.

2

Proximity of Plutonium Processing Facilities

The separation of an MOX fuel fabrication facility from the pit conversion facility (i.e., pit conversion at Pantex and MOX facility at SRS) could lead to significant control problems related to gallium contamination in the MOX fuel fabrication process. Because hafnium and gadolinium are both neutron absorber poisons that will contaminate the MOX fuel, in a manner similar to the requirement for Hafnium removal in reactor grade zircaloy for commercial LWR's, a polishing process has to be put in place to get rid of the gadolinium. This polishing process needs to be employed at the pit conversion facility if new construction is envisioned because this contamination in the MOX fuel fabrication facility is extremely difficult to control.

3

MD322

MD322-1

Human Health Risk

As explained in the *Supplement to the SPD Draft EIS*, DOE has eliminated as unreasonable the eight alternatives in the SPD Draft EIS that would involve use of portions of Building 221-F with a new annex at SRS for plutonium conversion and immobilization. It was determined that the amount of space required for the immobilization facility would be significantly larger than originally planned. These new space requirements mean that the annex to be built alongside Building 221-F would be very close in size and environmental impacts to the new immobilization facility alternatives at SRS. Therefore, this SPD EIS only presents the alternatives involving a completely new immobilization facility at SRS.

MD322-2

Immobilization

Proposed modifications to the in-tank precipitation (ITP) process are independent of the modifications needed at DWPF to support the surplus plutonium disposition program. The use of DWPF to support plutonium immobilization produces only a few additional glass canisters and is unlikely to delay the waste vitrification program significantly or to cause increased risks associated with liquid HLW management. DOE is presently considering a replacement process for the ITP process at SRS. The ITP process was intended to separate soluble high-activity radionuclides (i.e., cesium, strontium, uranium, and plutonium) from liquid HLW before vitrifying the high-activity fraction of the waste in DWPF. The ITP process as presently configured cannot achieve production goals and safety requirements for processing HLW. Three alternative processes are being evaluated by DOE: ion exchange, small tank precipitation, and direct grout. DOE's preferred immobilization technology (can-in-canister) and immobilization site (SRS) are dependent upon DWPF providing vitrified HLW with sufficient radioactivity. DOE is confident that the technical solution will be available at SRS by using radioactive cesium from the ion exchange or small tank precipitation process. A supplemental EIS (DOE/EIS-0082-S2) on the operation of DWPF and associated ITP alternatives is being prepared.

MD322-3**Plutonium Polishing and Aqueous Processing**

Pit disassembly and conversion is a common technology required for implementation of both the hybrid alternatives and the immobilization-only alternatives. The plutonium dioxide produced by the pit conversion facility can be used for either the immobilization or MOX approach. Neither gadolinium nor hafnium is present in pit plutonium metal in concentrations of concern for MOX fuel production. On the basis of public comments received on the SPD Draft EIS, and the analysis performed as part of the MOX procurement, DOE has included plutonium polishing as a component of the MOX facility to ensure adequate impurity (e.g., gallium) removal from the plutonium dioxide. Appendix N was deleted from the SPD Final EIS, and the impacts discussed therein were added to the impacts sections presented for the MOX facility in Chapter 4 of Volume I. Section 2.18.3 was also revised to include the impacts associated with plutonium polishing.

Additional processing needed only for MOX fuel fabrication would occur in the MOX facility, not the pit conversion facility. Controls would be put in place to ensure that any contaminants removed during the plutonium-polishing process would not contaminate the MOX fuel fabrication line. As indicated by the analyses, the addition of this process is not expected to materially affect the ability of the candidate sites to handle MOX fuel fabrication.

Location of Facilities

The types of technical problems (i.e., the In Tank Precipitation issue) that have arisen at SRS and DOE's approach to resolving them do not instill assurance that a plutonium pit conversion facility can be developed and constructed in a timely manner at SRS within any reasonable cost estimates. The DOE tiered approach needs supplemental Research and Development (R&D) technology for conceptual design and full scale operational throughput of surplus plutonium material. In addition, it is noted that Pantex with a new Pit conversions facility will provide minimal radiological impact on the population and workers, where there will be a major impact on the workers (349 person rem) and a factor of 10 increase in population radiological exposure if the facility is located at SRS.

4

Facility Accidents

The respirable fraction (the fraction of release consisting of Plutonium particles with a diameter of less than 10 microns is questioned). The DOE use of the fraction (0.1-0.01) 0.01 or smaller for the inhalation pathway to man is questioned. For inhalation of the lung; and TBLN it is noted that the fraction of respirable particles less than 10 microns does indeed affect the dose. What is left out is the fact that going from 1.0 microns to 0.1 micron, there is a 1000 fold increase in particle concentration for a 10 fold reduction in medium particle diameter for Pu-239.

5

6

Review of deposition and scavenging data reveal the difference for dry deposition vs. wet deposition of PuO₂ particles. The average bounds for wet deposition removal rate for particles is 10-4 for stable meteorological conditions and 10-3 for unstable wind conditions. For dry deposition of PuO₂ particles the deposition velocity is a constant value of 10-2 regardless of meteorological conditions. For bounding of particle deposition the maximum expected for wet deposition is 10-2 and for dry deposition 10-1. This 10 fold factor should not be overlooked in considering "respirable fraction".

7

The fraction of energy absorbed in tissue (f1) is always small for PuO₂. The value of f1 equals 3x10⁻³ is used for plutonium oxides. The value of f1 for the other actinides is conservatively set at f1 equals 10-3. Thus, the actual value has little effect on the estimation of inhalation dose.

8

Ingestion modeling (ICRP-23 1975) indicates that direct ingestion of PuO₂ particles would be a much lesser radiological impact than inhalation. It should be noted that part of inhaled material, however, would be translocated by bodily processes to the gastrointestinal tract. For sake of accuracy the model for the gastrointestinal tract must include all nuclides considered in the inhalation model.

9

The Melcor Accident Consequence Code System (MACCS2) used to calculate the consequences of facility accidents (appendix K) is a sector averaged code as opposed to the straight-line Gaussian. The sector-average equation uses the cross wind integrated model but distributes the Y-concentration evenly over a sector. The width of

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MD322

MD322-4

Alternatives

DOE acknowledges the commentor's concerns regarding the technical issues associated with pit disassembly and conversion. These issues are the subject of ongoing R&D activities at INEEL, LANL, LLNL, and ORNL. These activities are expected to reduce technical risk and ensure that design, construction, and operation of the proposed surplus plutonium disposition facilities can be conducted efficiently and effectively, and within reasonable cost and schedule constraints. The largest of these activities is the pit disassembly and conversion demonstration project at LANL, a full-scale pit disassembly and conversion line similar to what would be used in the proposed facility. This demonstration project and other R&D activities are described in *Pit Disassembly and Conversion Demonstration EA* (DOE/EA-1207, August 1998), which is available on the MD Web site at <http://www.doe-md.com>.

MD322-5

Human Health Risk

Sections 4.4.2.4 and 4.6.2.4 present radiological impacts of operating the pit conversion facility at SRS and Pantex, respectively. As shown in the tables regarding impacts to the public, the anticipated dose to the population surrounding SRS from pit conversion facility operations would be 1.6 person-rem/yr (average dose would be 0.0020 mrem/yr), and for Pantex would be 0.58 person-rem/yr (average dose would be 0.0019 mrem/yr); this difference of about 2.8 times is due mainly to the larger population surrounding SRS. As shown in the tables regarding impacts to workers, the worker population dose at the pit conversion facility is 192 person-rem/yr whether the facility is located at Pantex or SRS. The average worker dose is expected to be 500 mrem/yr to involved workers at either site.

Regardless of where the pit conversion facility is operated, DOE policy places safety and environmental considerations above other program goals. DOE dose limit requirements (DOE Order 5400.5, *Radiation Protection of the Public and the Environment*, and 10 CFR 835, *Occupational Radiation Protection*) have been established to protect and ensure the safety and health of the public and workers. In addition, protection of the public and workers is considered by DOE in the design, location, and construction of its facilities.

MD322-6**Facility Accidents**

As used in this SPD EIS, the respirable fraction is the mass fraction of airborne material estimated to have less than a 10-micron aerodynamic equivalent diameter (AED). Use of this definition is common practice within DOE and is included in *Airborne Release Fractions/Rates and Respirable Fractions for Nonreactor Nuclear Facilities* (DOE-HDBK-3010-94, October 1994). Section 1.2 of the handbook discusses respirable fraction in detail, citing other definitions that have been used historically by a variety of organizations, and concludes that “use of a 10 [micron] AED cut-size for respirable particles is considered conservative, and may even be overly conservative since the mass is a cube function of particle diameter.”

MD322-7**Facility Accidents**

There is no direct connection between deposition velocity and respirable fraction. Deposition velocity reflects the rate of removal of material from the plume to ground-level surfaces, whereas respirable fraction is the mass fraction of the particulate matter that can be inhaled. As implemented, respirable fraction was used in defining the source term, so that the released plume can be considered 100 percent respirable. Deposition velocity was set to zero, so that no material is assumed to be removed from the plume by this mechanism, thus increasing predicted downwind concentrations and inhalation dose (the most significant dose pathway).

MD322-8**Facility Accidents**

MACCS2 is a standard, accepted code for analyzing the impacts of accidents in EISs and for comparison of alternatives in NEPA documents. The MACCS2 dose conversion factor of 8.33×10^{-5} sieverts/ becquerel (3.08×10^{-8} rem/ci) for a 50-year committed effective dose equivalent from plutonium 239 for the inhaled chronic dose pathway to the whole body alleviated the need to assess dose on an organ-specific basis. The presence of other nuclides from the aged plutonium was accounted for by scaling the plutonium 239 dose factor against like factors for the other contributing nuclides in proportion to their presence.

MD322-9

Facility Accidents

Discussion on the use of the inhalation pathway for consequence estimation is in Appendix K.1.4.2. The inhalation dose as presented provides an appropriate basis for assessment of impacts and for comparison of alternatives in this SPD EIS.

MD322-10

Facility Accidents

The MACCS2 code does calculate the centerline ground-level plume concentration; it is not a (crosswind) sector averaged model. Perhaps the commentor is thinking of the GENII code, which is a sector-averaged code. It is not clear what the commentor means by, “DOE need to further elaborate why the MEL’s (sic) maximum exposure would be 100 meters under neutral (Class D) atmospheric conditions and 500 meters under stable (Class F) atmospheric conditions.”

As implemented, MACCS2 sampled over a year’s worth of meteorological data. For each sample, doses were determined along the plume centerline (for MEI and noninvolved worker) and for each fine grid element within each sector under the plume (for the population dose). Appendix K discusses the assumptions used and the accident analyzes conducted.

a sector is equal to the circumference ($2\pi X$) at distance X from the source divided by the number of Sectors, n (typically n=16 as that there are 16 22 ½ degree Sectors. The concentration in each Sector is weighted by the fraction of the time that the wind blows into the Sector of Interest (0.01 times the percentage of the time), f1 that the wind is blowing into the Sector of Interest. Sector averaging is an artifice for representing long-term meandering of the Plume. For accident considerations the center-line ground level source, and ground-level receptor may be more appropriate. DOE need to further elaborate why the MEL's maximum exposure would be 100 meters under neutral (Class D) atmospheric conditions and 500 meters under stable (class F) atmospheric conditions.

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Direct ingestion of PuO2 is a less important dose exposure than inhalation because PuO2 is highly insoluble even in body fluids. The f1 values (i.e. fraction of a quality that is absorbed from the gastrointestinal track to blood) range from 10-3 to 10-5. The safety requirement should insure that:

11

- a) accident analysis adequately consider all credible scenarios
- b) all appropriate engineering safety systems which are necessary to prevent accidents or mitigate the on-site and off-site consequences of those accidents are identified
- c) the fire hazards analysis be consistent with other accident analysis.

12

DOE estimates of the risk from design based accidents and natural disturbances such as a severe earthquake is judged to be adequate. The highest risk to the maximally exposed off-site individual is a bounding accident because its risk is higher than the risk of other accidents in the same frequency range. The consideration of the risks associated with bounding events or accidents for a facility can establish an understanding of the average risk to workers, members of the public, and the environment from operating the facility. The risks of different facilities can be compared relatively by comparing the risks associated with bounding accidents for each facility. DOE should provide additional consideration of bounding of risks due to accidents.

13

If the specific ground activity is associated mostly with particles of size greater than 50µm, a very small air concentration would result from the respirable size particles less than 10 microns.

14

For the Gaussian diffusion model (applicable for continuous and instantaneous sources). The vertical component of turbulence intensity is a strong function of thermal stability, which in turn may be quite variable with height above ground.

15

It is noted that the buoyancy flux is a factor in both stable & unstable meteorological conditions. However, it is questioned why DOE has used different MEL locations as a function of atmospheric stability and this should be explained further. Also it is noted that there will be no plume rise (i.e. buoyancy flux) for normal transportation accidents unless there is a fire.

16

MD322

MD322-11

Facility Accidents

DOE acknowledges the comment that inhalation pathways represent the greatest risk of exposure. This is accounted for in the MACCS2 model as discussed in Appendix K.1.4.2.

MD322-12

Facility Accidents

The selection of accidents for this SPD EIS was done in accordance with *Recommendations for the Preparation of Environmental Assessments and Environmental Impact Statements* (DOE Office of NEPA Oversight, May 1993). Design basis events were developed based on categorizing accidents into types of events, and a bounding consequence was determined for each type. The potential for accidents beyond the design basis was examined down to a frequency of 1.0×10^{-7} per year. This differs from the process-specific analysis, such as fire-hazards analysis, that would be performed in conjunction with the conceptual design package and the analysis performed for the SAR. It is these latter analyses that are used to determine the adequacy of engineered and administrative safety systems, and through which a commitment is made to preserve these protections as part of the operational safety basis.

MD322-13

Facility Accidents

The Facility Accidents sections in Chapter 4 of Volume I present a characterization of the spectrum of potential accident scenarios that are implicit in the particular alternatives. Each accident is conservatively developed by type, so is therefore considered to bound the accident risk.

MD322-14

Facility Accidents

There is no connection between ground activity and respirable-size particles. The respirable fraction is determined by the material form and scenario phenomenology and is based on recommendations in DOE-HDBK-3010-94, *Airborne Release Fractions/Rates and Respirable Fractions for Nonreactor Nuclear Facilities*. For example, the respirable fraction associated with fires in the MOX facility is 0.01, or 1 percent of the airborne material.

MD322-15

Facility Accidents

This SPD EIS uses 10-m (33-ft) meteorological data. These are the most appropriate data for use in calculating ground-level concentrations for nonbouyant plumes released at the stack heights analyzed. The vertical component of turbulence is not an important factor in determining downwind concentrations under the assumed release conditions.

MD322-16

Facility Accidents

All plumes released as a result of facility accidents were conservatively assumed to be nonbuoyant. This is reasonable for fires because significant cooling is possible in transit from the fire site to the release point. DOE has not used different MEI locations as a function of atmospheric stability. The MEI is located at the fence line, in the direction downwind from the release point. The MEI location changes for each run within the MACCS2 code because the wind direction changes for each run. This is why there is no single location associated with the MEI dose.

For new construction at SRS the Design Basis earthquake, the source term is assumed to be 3.8×10^{-4} grams. The dose at the site boundary is 1.7×10^{-5} rem.

For the case of accidents resulting from ceramic immobilization in F-canyon Bldg 221 F and DWPF at SRS, the source term is 3.8 grams. The dose at site boundary is 4.1×10^{-1} rem. Note that a factor 4 orders of magnitude increase in the severity of the accidents dose at the site boundary.

Therefore new construction at SRS is recommended (design basis earthquake) because of the decreases in radioactive emissions of Pu-239. The new facilities would be designed to reduce the frequency of accidents and to mitigate the consequences.

It is noted that for facility accidents, DOE has chosen to only consider the inhalation pathway to the pulmonary region and not consider the effect of resuspension of particles (MACCS2 code). In so doing, the code sets the deposition velocity the zero so that the material that might otherwise be deposited on the ground surfaces remains airborne and available for inhalation. This may not be as conservative for some types of accidents (i.e. particular PuO₂ fires and explosions). Airborne releases of Pu will be in the oxide form and contain a substantial percentage of particles in the "respirable range" (i.e. less than 10 micron).

DOE has limited the duration of accidental releases from SPD facilities to 10 minutes except for fires. This may be a rather limiting value compared to actual release times from other DOE facilities accidents. For fires and explosions it is recommended that the dose pathway from resuspension of Pu particles be included in the dose calculations.

Analysis indicate that when a contaminating event occurs most of the radiation dose associated with the event is committed within a short time (a period of a few weeks or months) unless protective actions are taken. Intervention criteria are based on a projection of the ultimate consequence of the event and a judgement of how certain actions could reduce the impact. Development of intervention criteria requires advance planning, so that emergency response plans can be implemented in a minimum period of time.

The objective of environmental sampling and analysis is to derive information for the purpose of estimating dose rates to pulmonary lung and to bone of exposed individuals. In general, resuspension will relatively high immediately after initial deposition, gradually decrease with time, and approach a long term constant within about one year after deposition. The resuspension rate for newly deposited contamination has been estimated to be higher by a factor of 1000 or more than that for aged sources of plutonium, and therefore, represents a proportionately greater radiological hazard.

The principal difference between the initial phase and long-term phase is that the newly deposited contamination is generally much more mobile and more easily resuspended.

MD322

MD322-17

Facility Accidents

The commentor is correct in identifying large differences between new construction and Building 221-F with respect to structural response to a design basis seismic event.

The remainder of this comment is addressed in response MD322-1.

MD322-18

Facility Accidents

The practice of setting the deposition velocity to zero so that the material that might otherwise be deposited on the ground surface remains airborne and available for inhalation is considered conservative for all analyzed accidents. The respirable fractions used for plutonium fires and explosions are from DOE-HDBK-3010-94, *Airborne Release Fractions/Rates and Respirable Fractions for Nonreactor Nuclear Facilities*, and are based on experiments of the phenomena in question. Airborne material that is not respirable will not subsequently become respirable because there is no mechanism for getting energy inside the particles to further subdivide them. The process of deposition and subsequent resuspension would tend to result in agglomeration rather than subdivision, so that the quantity of resuspended material that is respirable would be much less than that amount of respirable material in the original plume whose presence can be attributed to the neglect of deposition.

MD322-19

Facility Accidents

The 10-min release duration assumption does not imply that the source term has been truncated; it is simply assumed that the entirety of the source term is released at a constant rate over a 10-min duration. The effect of differing assumptions concerning release duration is discussed in Appendix K.1.4.2. The two factors affecting doses as release duration changes are plume meander and the larger variety of meteorological conditions involved in any given run for longer-duration releases. The effect on dose of these two considerations is as follows. Plume meander decreases individual dose with increasing release duration and tends to narrow the distribution of population doses with increasing release duration. A larger variety of meteorological conditions tends to narrow the distribution of both individual and population doses toward the mean dose with increasing release duration. Both factors would tend to lower (i.e., reduce conservatism of) predicted doses reported in this SPD EIS.

The remainder of this comment is addressed in response MD322-18.

MD322-20

Facility Accidents

As discussed in the Emergency Preparedness sections in Chapter 3 of Volume I, each candidate site has an established emergency management program, including response time requirements, that would be activated in the event of an accident. Site hazard surveys are periodically updated and would be modified to reflect any new hazards including those based on the decisions made in the SPD EIS ROD. These modifications would include development of revised intervention criteria, if needed, in accordance with DOE Order 151.1, *Comprehensive Emergency Management System*. The MOX facility would also be required to comply with 10 CFR 70, *Domestic Licensing of Special Nuclear Material*, which requires emergency plans that include provisions for notification, response, and coordination.

MD322-21

Facility Accidents

The dose calculations were performed in a conservative manner. To maximize the radionuclide concentrations in the atmosphere (and thus the inhalation dose), the deposition velocity of radionuclides onto the ground from the plume was taken to be zero. While this precludes the resuspension pathway, the increased dose associated with inhaling the radioactivity in the plume from which no radioactivity has been removed by deposition, is greater than the dose that would result from inhaling radioactivity in resuspended material.

It has been estimated that resuspension from newly deposited PuO₂ material may be as high as 10-4/m, or four orders of magnitude greater than for stabilized PuO₂ contamination.

21

Transportation

The DEIS discusses in detail the analysis of both incident-free transportation and the effects of transportation accidents. The discussion below deals specifically with transportation of either plutonium metal or plutonium oxide to SRS under Alternatives 3 and 5, but also applies to transportation of "pit parts" and high-enriched uranium (HEU) components from Savannah River Site (SRS) to other DOE facilities. It is assumed, based on information presented in the DEIS, that all shipments of plutonium or high-enriched uranium, including new Mixed Oxide (MOX) fuel shipments will be made using a Safe Secure Trailer (SST), operated by the Transportation and Safeguards Division (TSD) in DOE's Albuquerque office.

22

In July 1998, the DOE Deputy Assistant Secretary for Oversight issued a report titled "Independent Oversight Evaluation of Emergency Management Programs Across the DOE Complex". Included in this report is a critique of the TSD emergency management program. The Office of Oversight noted several "issues" related to TSD, including:

- 1) "In September 1996, TSD management mandated the removal of radiation monitoring instruments from all convoy shipments ... [s]ome Emergency Action Levels (EALs) require radiation readings.
- 2) "On November 1996, a TSD Safe Secure Trailer transporting nuclear weapons slid off a road and rolled over near Valentine, Nebraska. According to a Department of Defense Nuclear Command and Control System Support Staff report, almost four hours elapsed before DOE Headquarters was notified, and it was almost 20 hours before a Radiological Assistance Program (RAP) team determined that there had been no radiological release. The report recommended equipping convoys with radiological instruments to provide timely warning of potential personnel hazards.
- 3) "There is a discrepancy between an Emergency Action Level (EAL) in the TSD Hazards Assessment and the emergency management plan. One specifies an alert, while the other specifies a general emergency for the same conditions.
- 4) "The document provided to Convoy Commanders to provide initial protective action recommendations for the public include decision paths that cannot be completed due to lack of observable criteria (requires information not directly observable or measurable).
- 5) "The TSD hazards assessment (May 4, 1994) does not provide an adequate technical basis for ground transportation emergency planning, preparedness and response. No radiological assumptions, models, methodologies or evaluations for TSD convoy event hazards are documented or referenced in the TSD Hazards assessment.
- 6) "The emergency response organizations, procedures and training for TSD and its contractor, Ross Aviation, do not adequately support accurate and prompt

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MD322

MD322-22

Transportation

The commentor is correct. All shipments of plutonium and HEU, including new MOX fuel shipments, would be made using DOE's SST/SGT system. LLW and TRU waste would be shipped in commercial trucks, not SST/SGTs.

MD322-23

Transportation

DOE's internal and external reviews and assessments are designed to achieve a path of continuous improvement in its transportation and emergency management programs. However, the comments are beyond the scope of this SPD EIS and have been forwarded to DOE's Transportation Safeguards Division for review. DOE is currently analyzing the issues raised in the independent oversight evaluation and will take appropriate action as necessary.

categorization and classification of operational emergencies during transport of nuclear materials or devices." 23

The DEIS discusses "24-hour-a-day real-time communications to monitor the location and status of all SST shipments via DOE'S Security Communications system". For several years, state radiological emergency response organizations, including Georgia's, have had access to the TRANSCOM real-time shipment tracking system. Particularly within the past year, the TRANSCOM system has proven to be unreliable in tracking of domestic and foreign research reactor spent nuclear fuel shipments and Waste Isolation Pilot Plant (WIPP) dry run shipments. It is our understanding that the Transportation and Safeguards Division (TSD) shipments uses the same basic tracking software system, but states will not have access to the tracking information; nor will they have access to advance shipment information which normally precedes highway route controlled quantity (HRCQ) shipments of radioactive materials. 24

The text of the DEIS describes the postulated accident scenarios as "the maximum foreseeable offsite transportation accident", while Appendix L describes them as "the most severe accident conditions". We agree with DOE that Accident Severity Category VIII accidents would be considered "worst case" but assuming that such an accident can occur only in a rural setting does not appear to be conservative. For example, we note that "rural" mileage accounts for approximately 78% of the route between Pantex and SRS, while "suburban" mileage accounts for nearly 20% of the route. In the Atlanta metropolitan area, suburban speed limits outside I-285 are generally 65 miles per hour (mph); rural speed limits are 70 mph. Higher traffic volumes within the "suburban" area, and nearly equivalent speeds as in the "rural" area would seem to increase the relative probability of severe vehicle accidents in the "suburban" areas, and such accidents would potentially have far greater consequences than those presented in the DEIS. 25

The discussion of vehicle accidents specifically addresses the potential for a release of plutonium from the transport vehicle, with subsequent inhalation of plutonium by persons nearby. The DEIS however, states on page L-30, that "postaccident mitigative actions are not considered for dispersal accidents. For severe accidents involving the release and dispersal of radioactive materials into the environment, no postaccident mitigative actions, such as interdiction of crops or evacuation of the nearby vicinity, have been considered in this risk assessment." 26

The DEIS does not present sufficient information related to recovery. In Appendix K, which in general discusses the effects of facility incidents, the DEIS states "the longer-term effects of plutonium deposited on the ground and surface waters after the accident, including the resuspension and inhalation of plutonium and the ingestion of contaminated crops, were not modeled for the SPD (Surplus Plutonium Disposition) EIS. These pathways have been studied and been found not to contribute as significantly to dosage as inhalation, and they are controllable through interdiction". In previous correspondence with DOE in other programs, we have also met with some resistance to discussing the effects of deposited radioactive materials, as these effects

MD322

MD322-24

Transportation

DOE is working very closely with State and tribal representatives to upgrade the transportation tracking and communication (TRANSCOM) system. The shipment of special nuclear materials using SST/SGTs does not involve the use of TRANSCOM. DOE Order 5610.14, *Transportation Safeguards System Program Operations*, specifically requires independent and redundant communications systems between vehicles in an SST/SGT convoy and with SECOM (a secure communications system operated by DOE). For security reasons, State and tribal representatives are not given access to this system. DOE has a system to liaison with State transportation and safety organizations on SST/SGT shipments.

MD322-25

Transportation

The consequences of a Category VIII accident occurring in suburban and urban zones are shown in Tables L-8 and L-9. However, a Category VIII accident in suburban and urban zones would have a frequency of less than 1 in 10 million years and would not be a foreseeable accident. Appendix L was revised to describe the maximum foreseeable offsite transportation accident as occurring in a rural zone. Because the total mileage in urban and suburban zones is much lower than in rural zones, accidents are less likely to occur in urban and suburban zones.

MD322-26

Transportation

DOE acknowledges the commentor's concern about transporting surplus plutonium. The subject of emergency response and subsequent cleanup of an accident that involves the release of nuclear materials, both special nuclear material and waste, is a topic of continuing discussion and planning between DOE and State, local, and tribal officials. Several venues, such as DOE's State and Tribal Governments Working Group and the Southern States Energy Board, are being used to facilitate these discussions. DOE's Transportation Safeguards Division has a formal liaison program with the States related to the transportation of special nuclear materials.

No credit was taken for interdiction or other activities that could be taken after a transportation accident involving a radioactive release, so the doses reported in this SPD EIS are considered conservative. As indicated in

Appendix L.8.4, mitigative actions would be taken following such an accident in accordance with EPA guidelines for nuclear accidents. These actions would result in lowering the actual dose to the surrounding population. As with any transportation accident, local, tribal, and State police, fire departments, and rescue squads are the first to respond to accidents involving radioactive materials. DOE maintains eight regional coordinating offices across the country, staffed 24 hours per day, 365 days per year, to offer advice and assistance. Radiological Assistance Program teams are available to provide field monitoring, sampling, decontamination, communication, and other services as requested. Dose to emergency response personnel is accident-specific and can not be globally estimated. Responders are trained to minimize dose.

The RADTRAN computer code evaluates the dose to the public from the resuspension pathway by calculating a resuspension dose factor. The resuspension dose factor takes into account dose from deposited material that is resuspended by various mechanisms such as wind or traffic. The factor is calculated using the methodology developed by NRC in the *Calculation of Reactor Accident Consequences, Appendix VI to the Reactor Study* (WASH-1400, 1975).

Transportation would be required for both the immobilization and MOX approaches to surplus plutonium disposition. Transportation of special nuclear materials, including fresh MOX fuel, would use DOE's SST/SGT system. Since the establishment of the DOE Transportation Safeguards Division in 1975, the SST/SGT system has transported DOE-owned cargo over more than 151 million km (94 million mi) with no accidents causing a fatality or release of radioactive material. Furthermore, as discussed in Appendixes L.3.1.5 and L.3.1.6, DOE would ship all plutonium in Type B containers which must satisfy stringent testing criteria specified in 10 CFR 71, *Packaging and Transportation of Radioactive Materials*. The testing criteria were developed to simulate severe accident conditions, including impact, puncture, fire, and water immersion.

were seen as being more "environmental" than "emergency response".

In order to plan for, equip themselves to deal with, and train their response personnel for dealing with a transportation incident involving plutonium, state and local officials need information regarding both immediate protective measures, and also information related to post-emergency issues such as resuspension and relocation of deposited radioactive materials. For example, regarding vehicular disturbances, Sehmel (1975) has examined the importance of auto and truck traffic in the increasing of resuspension. It was concluded that such disturbance, in the case of an asphalt surface with newly deposited material, will lead to increased resuspension, with a fraction resuspended of the order of 10⁻⁵ to 10⁻² per vehicle passage. The higher rates occurred at speeds typical of freeway driving. After passage of about 100 cars only a small fraction of the original contamination remained on the road surface. Unless emergency officials promptly close the accident scene to vehicle traffic (an unlikely situation), emergency responders may face an incident scene that is, unknown to them, extremely hazardous due to respirable plutonium. Post-emergency actions may also be complicated due to the enhanced spread of contamination by vehicle traffic. It is worthy of note here that the DEIS presents no information regarding potential radiation doses to response personnel.

26

Public acceptance of transportation of plutonium (Pu) in the U.S. is not a given. The true risk posed by transportation of plutonium may indeed be very small, but it is not zero, and public perception regarding these risks, and public acceptance of them, is critical to the success of this program. The existence of knowledgeable emergency response personnel at the state and local level, armed with both the training and equipment which would be required to respond to a transportation incident involving plutonium is a critical component in obtaining this public acceptance.

Utilization of Mixed Oxide (MOX) Fuel

There is a major unresolved question regarding the DOE decision to build a MOX fuel fabrication facility. The answer lies with the existing 41 operating commercial nuclear utilities in the United States that DOE expects to use the MOX fuel. There is the potential need for core redesign and other stability and power dynamic provisions imposed on the utility industry. This raises the issue of whether or not rate schedules will absorb the inherent cost of conversion. This may shift the decision away from inclusion of plutonium in MOX fuel and toward the placement of surplus weapons useable plutonium directly into geologic disposal (expected to be located at Yucca Mountain).

27

Decommissioning and Decontamination of Plutonium Facilities

There is not enough attention given to the end of the plutonium fuel cycle missions in the Draft EIS. Conceptual designs should be provided indicating where decommissioning and disposal (Dad D) considerations have been a driving force in the technology development, fabrication, and operational readiness for chemical and

28

MD322

MD322-27

MOX Approach

Section 4.28 was revised to discuss the potential environmental impacts of operating the reactors that would use MOX fuel. Commercial reactors in the United States are capable of safely using MOX fuel. Modifications would need to be made to the fuel assemblies that would be placed in the reactor vessel to support the use of MOX fuel, but the dimensions of the assemblies would not change. DOE has used selection criteria in the procurement process which ensure that the domestic, commercial reactors chosen would be capable of safely and successfully completing the surplus plutonium disposition program. In addition, NRC would evaluate license amendment applications and monitor the operation of the proposed reactors selected to use MOX fuel. After irradiation is complete, the spent fuel would be stored on the site pending eventual disposal pursuant to the NWPAs.

The provisions of the DOE contract with DCS to use the Catawba, McGuire, and North Anna reactors would not result in additional cost to the electricity customer.

MD322-28

General SPD EIS and NEPA Process

As described in Section 4.31, features are being incorporated into the designs that would allow future deactivation and stabilization activities to be performed more quickly and easily to reduce the risk of radiological exposure, reduce the costs associated with long-term maintenance, and prepare the buildings for potential future use. Whether DOE would reuse or D&D the facilities following surplus plutonium disposition cannot be determined at this time. DOE will perform engineering evaluations, environmental studies, and further NEPA review to assess the consequences of different courses of action.

nuclear material. There is inadequate assurance that the consideration of risk trade offs in reducing and separating risks, along with well-intended costly measures, will deliver the expected protection of the environment, safety, and health (i.e., the cumulative risk of 50 tons of plutonium immobilization with that of up to 33 tons of plutonium in MOX fuel). DOE's historical approach to evaluating D&D options or the reuse of the facilities only at the end of the useful life of plutonium facilities is unacceptable and serves to detract from the true cost of the front end decisions for facility siting and construction.

28

Chemical Form and Safety

There are concerns about the final chemical and physical form of Plutonium Oxide in the proposed immobilization process. DOE should indicate what technical analyses have been provided to show that plutonium will be uniformly dispersed and subcritical, with no hot spots, eutectics, heat transfer peaks and with acceptable geometric configuration. It is interesting to note that DOE did use values for the airborne release fraction of up to 0.1 and respirable fractions of up to 1.0 for some of the severe accident scenarios; however, DOE failed to include justification for their use of these values for airborne release fraction, respirable fractions, leak path factor, and material at risk.

29

Malevolent Acts

Several of the facility incidents discussed in Appendix K of the DEIS, particularly those events for which the initiating event is an "operator error", could also be intentionally initiated by an operator with malicious intent (an informed insider). It is unclear that the analyses presented in this DEIS consider malicious intent as an incident initiator. A knowledgeable operator with malicious intent could disable or bypass systems which normally would be used to detect or mitigate an incident.

The transportation section of the DEIS, Appendix L, dismisses the possibility of malevolent acts with these words — "[i]n no instance, even in severe cases such as discussed below, could a nuclear explosion or permanent contamination of the environment leading to condemnation of land occur. ... [s]uch attacks would be unlikely to occur ... [o]ther materials, including uranium hexafluoride, uranium oxide, TRU waste and LLW, are commonly shipped, and to not represent particularly attractive targets for sabotage or terrorist attacks".

30

We disagree with the conclusions drawn in this section of the EIS, and request that DOE perform calculations of the consequences of incidents initiated by malevolent acts, including transportation incidents. Results of these analyses should be classified as appropriate, as recommended by DOE Order 151.1, and incorporated into both this EIS and the Emergency Preparedness Hazard Assessment (EPHA) documents for both TSD and the plutonium facilities.

MD322

MD322–29

Immobilization

Numerous R&D studies of the immobilized plutonium forms have been conducted by DOE and the national laboratories, in part to ensure that all environmental health and safety requirements are met. Several technical studies continue. For enhanced readability of this SPD EIS, supporting documentation and detailed analyses of the chemical, physical, and nuclear properties of the immobilized forms were published separately. Information on specific technical aspects of the immobilized forms can be found in the following documents: (1) the immobilization data reports published in conjunction with this SPD EIS; (2) *Report on Evaluation of Plutonium Waste Forms for Repository Disposal* (DI: A-00000000-01717-5705-00009, Rev. 00A, March 1996); (3) *Immobilization Technology Down-Selection Radiation Barrier Approach* (UCRL-ID-127320, May 1997); and (4) *Fissile Material Disposition Program Final Immobilization Form Assessment and Recommendation* (UCRL-ID-128705, October 1997). These documents are available to the public at DOE sites and regional reading rooms; the latter two are also available on the MD Web site at <http://www.doe-md.com>.

The airborne release fractions/rates and respirable fractions used in this SPD EIS for accident analysis are consistent with those stated in DOE-HDBK-3010-94, *Airborne Release Fractions/Rates and Respirable Fractions for Nonreactor Nuclear Facilities*. Appendix K contains scenario-specific summaries detailing the material at risk, damage ratios, airborne release fractions, respirable fractions, and leakpath factors used in the analysis of facility accidents. Additional information supporting values of material at risk, damage ratio, and leakpath factor can be found in the data reports referenced in Appendix K.

MD322–30

Facility Accidents

Sabotage scenarios are considered conjecture and not reasonably foreseeable. Although they were excluded from this SPD EIS, the results of such sabotage (including sabotage by an "insider" and transportation incidents) would be bounded by the accidents presented in Appendixes K and L. The possibility of sabotage would be controlled through the safeguards and security provisions including security requirements associated with facility workers.

The proposed surplus plutonium disposition facilities would be designed and operated in accordance with DOE Orders 470.1, *Safeguards and Security Program* and 151.1, *Comprehensive Emergency Management System*. The MOX facility and proposed reactors that would use the MOX fuel would be subject to similar NRC requirements.

GEORGIA DEPARTMENT OF NATURAL RESOURCES
 JAMES L. SETSER
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Georgia Environmental Protection Division Specific Comments Related to Surplus Plutonium Disposition Draft Environmental Impact Statement (DEIS) DOE/EIS-0283-D		
Pg 1-2	What is DOE's rationale for the alternative of converting 33t of surplus plutonium to MOX fuel? Is there a useful energy recovery goal for the surplus plutonium?	31
Pg 1-3	Why does DOE not further discuss the ultimate D&D of the three types of facilities? DOE has a vast experience of the technology and operation of Pu production facilities.	32
Pg 1-5	When will DOE provide the separate cost study (DOE 1998a) that should be analyzed along with this SPD EIS.	33
Pg 1-5	What will be the cost to the utilities and rate payers for MOX fuel utilization? Will it be similar to spent fuel charges under the NWPA provisions? Are all of the process development costs for MOX fuel a responsibility of DOE?	34
Pg 1-8	Why is the lack of homogeneity in less favor than the mobilization and vitrification in the ceramic can-in-canister approach? Has the criticality and heat transfer impacts been fully evaluated?	35
Pg 1-9	Why hasn't the Disassembly and Conversion Demonstration Environmental Assessment and Research and Development Activities Report (DOE 1998b) not accompany this SPD EIS?	36
Pg 1-9	Why does the ceramic can-in canister approach provide greater proliferation resistance than the glass can-in-canister approach? What lesser environmental impacts justify the ceramic over the glass can-in-canister approach?	37
Pg 1-9	DOE states that Hanford's cleanup mission is the site's top priority. Does SRS not have the same top priority of weapons site remedial site cleanup?	38
Pg 1-10	Why does the postirradiation examination of the MOX lead test assemblies not be a most desired requirement? This examination is most important in the determination of fuel defects, contamination, neutron absorber capability, hydrogen embrittlement and lastly physical characteristics of creep and swelling of the fuel material.	39
Pg 1-11	Will the pit conversion facility commence about 2001 before final evaluation is completed of the DOE/EA-1207 which intended to last up to four years?	40
MD322		

MD322-31**MOX Approach**

Under the hybrid alternatives analyzed, up to 33 t (36 tons) of surplus plutonium would be made into MOX fuel. DOE reviewed the chemical and isotopic composition of the surplus plutonium and determined in the *Storage and Disposition PEIS* ROD that about 8 t (9 tons) of surplus plutonium were not suitable for use in making MOX fuel. Furthermore, DOE has identified an additional 9 t (10 tons) for a total of 17 t (19 tons) that have such a variety of chemical and isotopic compositions that it is more reasonable to immobilize these materials and avert the processing complexity that would be added if these materials were made into MOX fuel. The criteria used in this identification included the level of impurities, processing requirements, and the ability to meet the MOX fuel specifications. If at any time it were determined that any of the 33 t (36 tons) currently proposed for MOX fuel fabrication was unsuitable, that portion would be sent to the immobilization facility. While there is a benefit gained from the use of this MOX fuel in domestic, commercial reactors, the goal of the surplus plutonium disposition program is not energy recovery, but instead disposition of the plutonium in a safe, timely, and cost-effective manner.

MD322-32**General SPD EIS and NEPA Process**

This comment is addressed in response MD322-28.

MD322-33**Cost**

The cost analysis report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009), was issued in July 1998. Another report, the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013) was issued in November 1999. These reports are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

MD322-34**MOX Approach**

Use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium

as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. The MOX facility would produce nuclear fuel that would displace LEU fuel that utilities would have otherwise purchased. If the effective value of the MOX fuel exceeds the cost of the LEU fuel that it displaced, then the contract provides that money would be paid back to the U.S. Government by DCS based on a formula included in the DCS contract.

The utilities will continue to pay the standard surcharge per kilowatt-hour of electricity used for spent fuel under the NWPA, as amended, regardless of whether the spent fuel is from commercial MOX fuel or LEU fuel. There are no known process development costs for MOX fuel.

MD322–35

Immobilization

The immobilization analysis included in the *Storage and Disposition PEIS* focused on the use of technologies that would blend the surplus plutonium directly with either HLW glass or ceramic in a homogenous mixture. Based on public comments on the *Storage and Disposition PEIS* and technology developments, DOE accelerated research, development, and testing of various aspects of the can-in-canister approach to establish the optimum plutonium concentration and chemical composition of a form that could be readily processed, satisfy nonproliferation concerns, and perform well after emplacement in a potential geologic repository. Included in these efforts were evaluations of criticality and heat transfer issues in addition to those that had been conducted for the homogenous forms. In the *Immobilization Technology Down-Selection Radiation Barrier Approach* (UCRL-ID-127320, May 1997), LLNL recommended that DOE pursue only the can-in-canister immobilization approach based upon its superiority to the homogenous approaches in terms of timeliness, higher technical viability, lower costs, and to a lesser extent, lower environmental and health risks. Based on further recommendations from a committee of experts representing DOE, the national laboratories, and outside reviewers, DOE subsequently determined that immobilizing surplus plutonium materials would be best accomplished using the ceramic process. NAS is also currently studying the ability of the immobilization approach to meet the Spent Fuel Standard, including the heat transfer impacts of this approach.

MD322-36**Pit Demonstration EA**

There is no need for the *Pit Disassembly and Conversion Demonstration EA* (DOE/EIS-1207, August 1998) and its FONSI (August 1998) to accompany this SPD EIS because the environmental impacts of the pit demonstration will not affect the cumulative impacts of dispositioning surplus plutonium. This EA is referenced in this EIS for the purpose of keeping the decisionmaker and the public fully informed about all aspects of the surplus plutonium disposition program.

MD322-37**Immobilization**

This SPD EIS considers the immobilization of surplus weapons-usable plutonium in two forms, ceramic and glass; both would be produced using similar processes based on a can-in-canister approach. Past analyses have indicated that both ceramic and glass would be acceptable for immobilizing surplus plutonium. Recently, DOE completed a series of evaluations to determine whether the properties associated with ceramic or glass would be better suited for immobilizing plutonium (*Fissile Material Disposition Program Final Immobilization Form Assessment and Recommendation* [UCRL-ID-128705, October 1997]). These studies indicated that the use of ceramic would be more resistant to the threat of theft, diversion, or reuse, due to the greater difficulty associated with trying to chemically extract and separate plutonium from the ceramic form than is required for the glass form. The studies also found that ceramic form would likely be more durable over a longer period of time under geologic repository conditions, would require less shielding to protect workers, and would potentially provide significant cost savings. Only minor differences between the two forms are expected in terms of potential environmental impacts, as described in Section 4.29. Whereas the ceramic form would result in slightly higher potential offsite radiological exposures from normal operations, facility accident impacts, and water and electricity requirements, the glass form would result in higher routine and accidental transportation impacts. Overall radiological exposure to workers, as well as anticipated waste types and volumes, would not be expected to differ appreciably between the two forms.

MD322–38

Alternatives

DOE believes that Hanford’s efforts should remain focused on its current high-priority cleanup mission. The importance of cleanup at Hanford was taken into consideration in identifying preferred sites for surplus plutonium disposition activities; however, no decision has been made. While it is true that SRS also has cleanup activities underway, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure.

MD322–39

Lead Assemblies

At the time the SPD Draft EIS was issued, the DOE procurement process to acquire MOX fuel fabrication and reactor irradiation services was not completed. DOE was unsure whether the team that would be selected would be able to use its existing knowledge to determine MOX fuel performance, or if the team would require lead assembly testing to ascertain fuel performance. In consultation with DCS, the team selected during the procurement process, DOE believes that limited lead assembly fabrication and postirradiation examination will be required.

MD322–40

Pit Demonstration EA

Should DOE decide to build a pit conversion facility, this facility would begin operating about 2004 by which time the pit disassembly and conversion demonstration would be completed. Facility design, however, would take place during approximately 1999 through 2001. While the pit demonstration would continue for up to 4 years, the information from the demonstration would be generated, gathered, and available on an ongoing basis. This means that information transfer regarding the fine-tuning of the operational parameters of a pit conversion facility could be provided on a continuous basis throughout the facility design phase. Also, because the information from the demonstration would be used to supplement other information developed to support the design of a pit conversion facility, it would not be necessary for the demonstration to be completed before beginning facility design and construction.

Pg 1-12	Is D and D a major category in the direction of DOE's blueprint for waste cleanup (DOE/EM-0342) ? To what extent does this SPD reflect the implications of waste management and environmental restoration in the paths to closure document?	41
Pg 1-14	The SRS Actinide Packaging and Storage Facility is a planned facility, not in operation at this time according to DOE. What is the specific relationship between this planned facility at SRS and SPD? Special concerns relating to the environmental impacts for stabilization of the neptunium-237 aqueous solutions is required.	42
Pg 1-15	Has DOE completed further study and evaluation for safety and final thermal loading for the HLW canisters, using the criterion (ie, surrounding radiation barrier for immobilized plutonium)?	43
Pg 2-8DOE	needs to indicate the potential environmental impacts of the ceramic and glass can-in-canister technologies based on generic designs and compare to those impacts of the homogeneous facilities. DOE needs to evaluate the conceptual design and modifications required by full operational readiness of these facilities. The (DOE 1996a) Storage and Disposition Final PEIS is not adequate in present form for SPD facilities siting.	44
Pg 2-10	DOE's development of alternatives should clearly state that useful fissile material energy resource is either to be immobilized and buried as long-term HLW in geologic repository or that a portion of the surplus plutonium is to be utilized as MOX fuel for commercial LWRs.	45
Pg 2-12	DOE Feed Preparation Methods for immobilization is considering a major change from the wet-feed preparation process (aqueous processing) to a dry-feed process. It is stated that the dry-feed process requires less quantity of water and generates less amounts of waste, and has been chosen for use in this SPD EIS. This decision based on actinide removal from waste streams needs further evaluation primarily based on the long experience and operations for aqueous processing.	46
Pg 2-13	DOE needs to state clearly that for plutonium processing and storage considered in this SPD EIS, material unaccounted for (MUF) will not be allowed for the special nuclear material. The accountability must satisfy the proliferation concerns and inspections of IAEA.	47
Pg 2-13	DOE needs to further evaluate to determine if the Pit Disassembly and Conversion is adequate for the removal of gallium. The fuel poison will result in impurity in plutonium dioxide feed for MOX fuel fabrication. This	48

MD322

MD322-41**Waste Management**

Comments on the draft and final *Accelerating Cleanup: Paths to Closure* documents (DOE/EM-0342, February 1998 and DOE/EM-0362, June 1998) are beyond the scope of this SPD EIS, although Section 1.8.2 of this SPD EIS describes the relationship between this EIS and those documents. Section 1.8.2 states that this EIS reflects the proposals in *Accelerating Cleanup: Paths to Closure*, to the extent possible, and that subsequent versions of that document will reflect the waste management and environmental restoration implications of the decisions made as a result of this EIS.

MD322-42**Waste Management**

DOE has recently decided to delay the construction of APSF, and the *Supplement to the SPD Draft EIS* reflects modifications to disregard any benefit to the proposed facilities of APSF being built at SRS. Stabilization of neptunium 237 solutions would not occur within APSF, if built, and this process is not required to support the disposition of surplus plutonium.

MD322-43**Immobilization**

This comment is addressed in responses MD322-35 and MD322-37.

MD322-44**Immobilization**

DOE believes the analyses presented are adequate to support the decisions being addressed in this SPD EIS, including the facilities' siting. As a means of bounding the estimate of potential environmental impacts of the immobilization approaches to surplus plutonium disposition, the *Storage and Disposition PEIS* analyzed in detail the construction and operation of generic homogeneous ceramic immobilization and vitrification facilities. Although generic designs were the focus of the study, these designs were analyzed against parameters specific to each of the candidate sites to determine potential site-specific environmental impacts. Several variant immobilization technologies were also discussed in the *Storage and Disposition PEIS*. The subsequent ROD for that EIS states that DOE would make a determination on the specific technology on the basis of "the follow-on EIS" (this SPD EIS). In the tiered SPD EIS, the can-in-canister approach was identified as the preferred

immobilization technology and evaluated in detail as part of each alternative. As a basis for evaluating the alternative immobilization technologies and forms presented in the two documents, the environmental impacts associated with operating the ceramic and glass can-in-canister immobilization facilities evaluated in this SPD EIS were compared with the impacts associated with operating the homogenous ceramic immobilization and vitrification facilities evaluated in the *Storage and Disposition PEIS*. This comparison is presented in Section 4.29.

MD322–45 **Alternatives**

In Volume I, Chapter 1 discusses the purpose of the proposed action and Chapter 2 describes the development of the alternatives.

MD322–46 **Plutonium Polishing and Aqueous Processing**

DOE does not agree that aqueous processing for immobilization feed preparation requires further evaluation in this SPD EIS. In addition to higher water consumption and waste generation cited as examples in this EIS, the aqueous process would also present a higher potential for worker exposure to radioactive materials and greater risk to the public. An aqueous process for the conversion of plutonium for immobilization would also require much more control to provide adequate protection against proliferation and to provide for proper oversight by IAEA. Therefore, aqueous processing/wet feed for immobilization is not a reasonable alternative.

MD322–47 **Nonproliferation**

Security for the proposed surplus plutonium disposition facilities would be implemented commensurate with the usability of the special nuclear material in a nuclear weapon or improvised nuclear device. At any time, the total amount of special nuclear material in each facility, or in any material balance area within each facility, would be known and so material unaccounted for would be avoided. Physical inventories, measurements, and inspections of material both in process and in storage would be used to verify inventory records. In addition, each of the proposed facilities includes design requirements for space, and to varying degrees, access for an international body to verify compliance with international nonproliferation policies.

However, the actual implementation process for ensuring international safeguards of the Russian and U.S. material is not as yet fully defined. That process is part of ongoing sensitive negotiations between the two countries. Under the details of those negotiations, the verification process for compliance of the proposed facilities with international nonproliferation policy could be conducted by a bilateral arrangement that includes access to the proposed facilities only by members of the U.S. and Russian governments, or it could include access to the facilities by an international body, such as IAEA.

MD322-48 Plutonium Polishing and Aqueous Processing

On the basis of public comments received on the SPD Draft EIS, and the analysis performed as part of the MOX procurement, DOE has included plutonium polishing as a component of the MOX facility to ensure adequate impurity removal from the plutonium dioxide. Appendix N was deleted from the SPD Final EIS, and the impacts discussed therein were added to the impacts sections presented for the MOX facility in Chapter 4 of Volume I. Section 2.18.3 was also revised to include the impacts associated with plutonium polishing.

	is a major problem and may require a separate Plutonium Polishing Process. DOE has not made a decision on the Plutonium Polishing Process or whether, if needed, it would be placed in the facilities for Pit Conversion or at the MOX fuel fabrication facilities. Gallium contamination, like other neutron absorbing poisons, is a major concern in MOX fuel fabrication.	48
Pg 2-23	DOE needs to develop accident scenarios for the case of HEPA filter failure. The occurrence will not provide the DF of 10-4 that is required for 99.99% particle removal as small as 0.3 micron in a flowing airstream. DOE has postulated a LPF value of 1.0X10-5 for two HEPA filters. This is an operational problem and if sand filters are not used in conjunction, will the HEPA filter provide an LPF of 1X10-5 and will not be maintained.	49
Pg 2-23	DOE needs to clearly state that SRS has the edge over other facilities by providing the least transportation impacts and necessary experience in plutonium production.	50
Pg 2-27	DOE needs to clearly state the time schedules for construction and operation of the MOX Facility Description. Depending upon DOE's decision on immobilization of surplus plutonium, the DOE decision on MOX fuel fabrication depends on a number of other considerations (ie, lead test assemblies, utility acceptance, etc.). The tiered approach of SPD EIS is barely appropriate for siting of MOX fuel fabrication when so many other variants exist.	51
Pg 2-30	It is vital that a homogeneous mixture exists in the mixed oxide (ie, blending and milling the PuO2) to achieve the required enrichment and isotopic concentration of the uranium and plutonium powders and to adjust the particle size of the MOX powder. The determination of accurate particle size of the MOX fuel is a most important factor in estimation of severity of facility accidents.	52
Pg 2-32	DOE notes that the dose from pit-handling activities at Pantex could be reduced by 40% because the majority of pits are already in storage at Pantex.	53
Pg 2-56	DOE needs to determine if the time schedules, reduced cost, infrastructure and other advantages of using the 44-year-old contaminated and aging F-canyon Bldg 221-F outweighs the new building construction at SRS. It is also noted that use of Bldg. 221-F would result in about 0.5 LCF for a designed basis earthquake at SRS.	17
Pg 2-98	DOE needs to stress what is the meaning of site limit 10 mrem/year from all facility sources. This is the annual effective dose equivalent to the MEI	54

MD322

MD322-49

Facility Accidents

The assumed leakpath factor of 1.0×10^{-5} for operational HEPA filters is achievable and conservative. However, this SPD EIS also analyzed a number of accidents that involve various degrees of containment failure, including HEPA filter failures. Two of the most significant are the beyond-design-basis seismic event and the beyond-design-basis fire. Details on these and other scenarios are provided in Appendix K and the Facility Accident sections in Chapter 4 of Volume I. None of the proposed surplus plutonium disposition facilities are planning to use a sand filter, so credit has not been taken for that in the accident analysis.

MD322-50

Alternatives

In Volume I, transportation impacts at SRS are summarized in Chapter 4 and described in Appendix L. Infrastructure is also discussed in Chapter 4. As indicated in Chapter 1 of Volume I, the existing infrastructure at SRS is one of the reasons SRS was chosen as the preferred site for the proposed surplus plutonium disposition facilities. As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures or vehicle emissions are expected.

MD322-51

Purpose and Need

Appendix E includes schedules for each of the three proposed surplus plutonium disposition facilities and the lead assembly facility. This SPD EIS is tiered from the *Storage and Disposition PEIS* because the latter evaluated the disposition of weapons-usable fissile materials at a programmatic level. DOE committed in the ROD on the *Storage and Disposition PEIS* to do follow-on, site-specific NEPA analyses to determine the exact locations for the disposition facilities. The *Storage and Disposition PEIS* considered a broad range of technology options and candidate sites for the disposition of surplus plutonium, and the ROD narrowed the options to those evaluated in the SPD EIS.

The MOX approach includes the testing of up to 10 lead assemblies. However, the facilities where these assemblies would be built and tested already exist and can be quickly modified to support the MOX approach. Utility acceptance has already been addressed with the award of a contract

to DCS and the proposal to use the Catawba, McGuire, and North Anna commercial reactors with partial MOX cores.

MD322-52

Facility Accidents

DOE agrees that accurate particle size of the MOX fuel is an important factor in estimation of severity of facility accidents. The issue of MOX powder particle size was considered in the course of analysis for this SPD EIS as documented in the memorandum, *Particle Size of PuO₂ Generated by HYDOX-Ga Removal Process and Impact on Usability of DOE-HDBK-3010-94 ARF and RF Values* (personal communication from J. Mishima to J. Eichner, Science Applications International Corporation, December 15, 1997). The conclusion was that the values in DOE-HDBK-3010-94 were conservative and appropriate for use in the SPD EIS analysis. This is discussed in Appendix K.1.5.1.

MD322-53

Human Health Risk

Decisions on the repackaging of pits at Pantex have been revisited since the SPD Draft EIS was published. Section 2.18 and Appendix L.5.1 were revised to incorporate a modified transportation dose analysis. If the pit conversion facility is located at Pantex, the dose associated with repackaging the pits for shipment off the site could be avoided, thus eliminating approximately 10 person-rem/yr in worker exposure.

MD322-54

Human Health Risk

In the Human Health Risk portions of Section 4.32, the 10-mrem/yr limit is described in detail. It is stated that there is a 10-mrem/yr NESHAP dose limit from total site airborne emissions, as required by the Clean Air Act regulations and DOE Order 5400.5, *Radiation Protection of the Public and the Environment*.

	at the site boundary. This places a limit on the lifetime risk for maximally exposed individuals and average individuals in large population groups.	54
Pg 2-99	This is not one of DOE's best examples of commitment for removing spent fuel from the utility storage by January 1998.	55
Pg 2-102	With the exception of sulfur dioxide in the ceramic can-in-canister process all criteria pollutant emissions associated with either can-in-canister technology is within limits. If DOE determines that if scrubbers for the sulfur dioxide are required in the conceptual design, it should be clearly stated.	56
Pg 3-142	The radiation doses to workers from normal SRS operation in 1996 yields a total effective dose equivalent of 19 mrem for the average radiation worker from on-site releases and direct radiation. This same value of 19 mrem is shown for the Hanford workers in 1996; however, a lower person-rem does of 237 for SRS vs 266 for Hanford.	57
Pg 3-152	It is noted that DOE must exhibit constant attention and vigilance to reduce off-site liquid pathway radionuclide contamination. There is widespread contamination on-site at SRS.	58
Pg K-1	If the frequency of the initiating event is known, then the point estimate of increased risk of LCF per year may be helpful in understanding individual risk instead of population risk.	
Pg K-1	One type of risk, average individual risk is the product of the total consequence (if known) experienced by the population and the accident frequency, divided by the population.	59
Pg K-2	It is noted that the MACCS2 accident model code is capable of calculating individual consequences at the point of maximum consequences but it is not configured to calculate individual risk at the point of maximum risk.	
Pg K-5	It is noted that the accident factors for source term (ie, MAR, DR, ARF, RF and LPF) as indicated by DOE Handbook 3010-94 is questioned. DOE needs to justify the use of these factors in realistic accident scenarios. If the value of each of these factors depends on the details of the specific accident scenario postulated, then that detail must be provided to compare accident risk. Otherwise, the factors are judged to provide source term reduction without justification.	60
	It is most appropriate to use realistic model input parameters; conservative parameters should be used only to the extent necessary to compensate for uncertainties.	
		MD322

MD322-55

Waste Management

Section 4.28 was revised to discuss the potential environmental impacts of operating the reactors that would use the MOX fuel. As described in Sections 2.18.3 and 4.28.2.8, additional spent fuel would be produced by using MOX fuel instead of LEU fuel in domestic, commercial reactors. Spent fuel management at the proposed reactor sites is not expected to change dramatically due to the substitution of MOX assemblies for some of the LEU assemblies. Likewise, the additional spent fuel would be a very small fraction of the total that would be managed at the potential geologic repository. Issues related to a potential geologic repository for HLW and spent nuclear fuel are beyond the scope of this SPD EIS, but are being evaluated in the *Draft Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada* (DOE/EIS-0250D, July 1999).

MD322-56

Air Quality and Noise

The sulfur dioxide emissions for the ceramic can-in-canister process are within limits as shown in the immobilization sections of Appendix G (e.g., Table G-9).

MD322-57

Human Health Risk

The reason for the difference in total number of person-rem between the two sites is due to the different number of workers at SRS and Hanford. Total workforce dose (in units of person-rem) is calculated by multiplying the average worker dose by the number of workers at a given site. Thus, for SRS, 19 mrem multiplied by 12,500 workers yields 237 person-rem (237,000 person-mrem). At Hanford, 19 mrem multiplied by 14,000 workers yields 266 person-rem (266,000 person-mrem).

MD322-58

Water Resources

DOE acknowledges the commentor's concerns regarding contamination at SRS. Although beyond the scope of this SPD EIS, activities to remediate existing contamination at SRS are ongoing. In addition, SRS maintains an aggressive waste minimization and pollution prevention program as described in Section 3.5.2.7. Analyses presented in Section 4.26.4.2 indicate that there

would be no discernible impacts to groundwater or surface water quality at SRS from construction and normal operation of the proposed surplus plutonium disposition facilities. If all the proposed facilities were located at SRS, a very small incremental annual dose to the surrounding public from normal operations would result via radiological emission deposition on agricultural products, fisheries, and water sources (i.e., the Savannah River). This dose (about 1.6 person-rem/yr) would be 0.0007 percent of the radiation dose that would be incurred annually from natural background radiation. It has also been estimated that a small fraction of this dose (about 0.10 person-rem/yr) would be specifically due to the consumption of aquatic biota (fish or crustaceans) and drinking water (i.e., from the Savannah River) from minute quantities of air deposition and/or from any potential wastewater releases. This estimation is based on historical characteristics associated with F-Area releases to Savannah River outfalls. Nevertheless, public doses incurred from the uptake of these sources were determined to be well below Federal, State, and local regulatory limits.

MD322-59

Facility Accidents

Appendix K.1.1.2, Uncertainties and Conservatism, presents the rationale for preserving the consequences and frequency metrics as the primary accident analysis results, as opposed to risk metrics. However, to assist the interested reader in using the results to calculate average individual risks, the discussion of risk measures was revised to include reference to population figures, which are needed for calculating average individual risk for those living within 80 km (50 mi) of the site. As discussed in Appendix K.1.1.1, average individual risk is sensitive to the choice of the population that is included in the calculation, so care must be taken when interpreting such results.

MD322-60

Facility Accidents

DOE-HDBK-3010-94, *Airborne Release Fractions/Rates and Respirable Fractions for Nonreactor Nuclear Facilities*, is the accepted standard for determining ARF and RF values. The values specified in that handbook are phenomenology dependent. Application of the values to a specific accident scenario requires characterization of the phenomena associated with that accident and matching of those phenomena with like phenomena in the handbook. Where phenomena do not match exactly, scaling of values may be needed to better characterize the accident. Chapter 7 of the handbook

contains application examples that can be reviewed to clarify the appropriate use of the values. The recommended values in the handbook are bounding, which adds an element of conservatism to any analysis in which they are used but they are also considered realistic for analysis in this SPD EIS. MAR, DR, and LPF factors are developed purely in the context of the analyzed accidents and do not originate from DOE-HDBK-3010-94. Appendix K.1.5 provides information on the specific accident scenarios postulated. Further details are provided in the referenced data reports which are available in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

Pg K-12	For an aircraft crash scenario, the DOE Handbook 3010-94 recommends values for debris impact in powder and recommends bounding ARF and RF values of 1×10^{-2} and 0.2 respectively. However, DOE attempts to justify use of a value of 3×10^{-2} for RF and a value of 1×10^{-2} for ARF corresponding to a decreased source term of 104g for the MOX facility and 18g for pit conversion facility accident.	61
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Pg K-22	It is interesting to note that for an explosion in sintering furnace a bounding ARF of 0.01 and RF of 1.0 is assumed and based on an LPF of 1×10^{-5} for two HEPA filters, a stack release of 5.6×10^{-4} g of Pu-239 (in the form of MOX powder) is postulated.	62
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MD322

MD322-61

Facility Accidents

While, from a risk standpoint, the use of an arithmetic average RF is appropriate, the use of this method is inconsistent with the use of bounding values from DOE-HDBK-3010-94 for other accidents. Appendix K.1.5 was revised to use a respirable fraction of 0.2 and an airborne release fraction of 1.0×10^{-2} for aircraft debris impact into plutonium dioxide powder.

MD322-62

Facility Accidents

DOE acknowledges the comment.

AUG-11-98 TUE 07:40

P.02

*Maria Holgala
DOE*

I'm Charles Walker and I am fortunate enough to represent the people of Burke and Richmond Counties as Senate Majority Leader of the Georgia State Senate. A good deal of these people are touched by the Savannah River Site each day.

Now that the Cold War is over, the United States and the former Soviet Union have agreed to dismantle their nuclear arsenals. The people at SRS and the CSRA contributed to our Nation's nuclear deterrent efforts for over four decades and now these same people are prepared to take on the new, critical mission of plutonium disposition. In particular, the Savannah River Site's unique history make it the logical choice for the pit disassembly and conversion mission.

Why would DOE consider another possible site for this mission? Well, perhaps another facility has the experience that SRS has had handling plutonium. However, DOE acknowledged that SRS was uniquely qualified to handle plutonium when it named SRS as the site of choice for Mixed Oxide Fuel Fabrication.

Perhaps another facility can accomplish the mission at a lower cost to taxpayers. Well, DOE's own cost report that accompanied the draft EIS for Surplus Plutonium Disposition acknowledged that locating the pit disassembly facility at SRS would save taxpayers at least \$60 million. However, the potential savings could reach \$715 million.

Well, if SRS has the experience, infrastructure and can accomplish the pit disassembly mission at a lower cost to taxpayers, perhaps it is a safety issue. Well, how could that be because we know that SRS has the best safety numbers of the entire DOE complex.

Perhaps as Frederico Peña indicated on his visit to SRS and CSRA, community support is a major portion of the decision making process. I myself was part of a delegation that met with the Secretary, both here and in Washington, to express the community's support of the plutonium disposition mission at SRS. Other groups have met with DOE to state the overwhelming support that SRS has in the community. In fact, we invite Secretary Richardson to visit SRS and the CSRA to obtain a sense of this tremendous support.

I believe that these hearings will provide overwhelming arguments as to why DOE will decide that SRS is the preferred site for the Pit Disassembly Mission.

Thank you for this opportunity to express my comments.

SCD53

SCD53-1

Alternatives

DOE acknowledges the Senator's support for siting the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure.

Because this comment relates directly to the cost analysis report, it has been forwarded to the cost analysis team for consideration. The *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses for alternatives associated with the preferred alternative, is available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

GEORGIA SENATE
HONORABLE CHARLES W. WALKER
PAGE 1 OF 1

CHARLES W. WALKER
District 22
Post Office Box 1282
Augusta, Georgia 30903-1282
MAJORITY LEADER

COMMITTEES:
Appropriations, Secretary
Health and Human Services, Secretary
Insurance and Labor
Pensions and Retirement
Public

The State Senate
Atlanta, Georgia 30334

June 26, 1997

To the Department of Energy & concerned Citizens of the Central Savannah River Area:

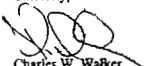
I appreciate the opportunity to comment on the proposed decision to consolidate plutonium missions at the Savannah River Site.

The Savannah River Site continues to play a key role in this community and has the only large-scale plutonium processing facility in the country. From a business perspective, why would you spend the dollars to transport components to SRS? It is only logical to keep all the plutonium handling operations at one site. Furthermore, the Savannah River Site has maintained a good safety record for more than 40 years with the technical experience and expertise in handling plutonium.

The community fully supports SRS for the entire plutonium mission as the lowest cost alternative overall with the least adverse environmental impact. You will find that the level, breadth and depth of support is found at no other site in the complex.

I support this effort and am committed to working hard to do whatever is within my power to assist in stabilizing the workforce and increase employment opportunities at the Savannah River Site.

I ask you to seriously review the request and respond in the time allotted to address you this evening. Thank you.

Sincerely,

 Charles W. Walker
 Senate Majority Leader

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SCD104

SCD104-1

Alternatives

DOE acknowledges the Senator's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.



United States
Department
of Energy

Comment Form

NAME: (Optional) Joseph Gilkison
ADDRESS: 5702 WISSELY TRAIL, MARQUETTE, GA 30007
TELEPHONE: () _____
E-MAIL: _____

I want to go on record as being in favor of building and operating the Pu Immobilization facility, MOX facility, and the Plut conversion facility at the Savannah River site. Locating these facilities at SRS appears to be the most economical alternative. The SRS currently have the trained work force and infrastructure for these missions. In addition, the SRS is currently involved with handling and storage of Pu.

The alternative site for the Plut conversion Facility at Pantex does not make sense to me. Pantex does not currently have the trained and experienced work force for handling Pu. For the start-up of Pu handling at Pantex will open that site to new hazardous waste streams not currently being handled by that site.

In my opinion, the Savannah River site is the obvious better choice for all three missions.

1

SCD54

SCD54-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

I am pleased to have the opportunity to provide comments to DOE on an issue of such global importance as the disposition of weapons surplus plutonium. The following statements represent my personal positions on the “Surplus Plutonium Disposition Draft Environmental Impact Statement” (DOE/EIS-0203-D), and should in no way be construed as being representative of the positions of my employer or any organization that I represent in any official capacity. All of the following comments should be considered in the context of my personal belief that consolidation of all aspects of the plutonium disposition mission at a single site has decided cost, management, environmental and safety advantages over other alternatives.

1

As brought out by several commenters at public hearings on this draft EIS, public support, or at least public acceptance, of plutonium disposition missions will require the highest level of public and worker safety and environmental protection. The overall success of plutonium disposition missions will require that vigorous environmental management (including both on-site and off-site environmental monitoring) and emergency preparedness programs are conducted as integral and vital parts of the mission, not as “overhead” functions as they seem to be currently viewed by DOE. Independent participation in these programs by agencies of affected state and local jurisdictions is essential to their success, and DOE should facilitate realistic participation in these programs through new or existing Agreements in Principle (AIP’s) with affected jurisdictions.

2

WD023

WD023-1

Alternatives

DOE acknowledges the commentor’s support for siting the proposed surplus plutonium disposition facilities at one site. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

WD023-2

DOE Policy

DOE Order 151.1, *Comprehensive Emergency Management System*, contains requirements for emergency-related offsite interfaces addressing accident conditions. This order states that Hazards Survey/Assessment results should be used to generate a listing of all services which may be needed to respond to postulated accident conditions. Examples of services which may be required include hospitals, fire departments, law enforcement, accident investigation, analytical laboratory services, ambulance services, coroners, suppliers, contractors, and others. Services needed should be checked against the capabilities of the identified interface organizations and agencies to ensure all are addressed. An interface should be established with each entity from which support will be needed and appropriate agreements prepared. For multiple-facility/sites, the contractor and operations/field office with site-wide responsibility should provide centralized point of coordination. The agreement should contain, at a minimum, the following information (1) the specific service to be provided; (2) point of contact and information required to initiate the service; (3) any constraints which might preclude the organization from meeting its obligation; (4) public information release protocols; (5) financial arrangements, including commitments by the facility/site to provide training, equipment, and facilities to the entity providing the service (considerations include indemnification for injury to persons or loss and damage to property); and (6) periodic re-examination of the provisions and a renewal or termination date.

If a facility/site is to provide support to an offsite agency under the good neighbor policy or through mutual aid agreements, those support interfaces should be documented. In addition, DOE radiological emergency response

Public perception of the risks related to the transportation of plutonium between DOE facilities, and public acceptance of them, is critical to the success of the entire plutonium disposition mission. The existence of knowledgeable emergency response personnel at the state and local level, armed with both the training and equipment which would be required to respond to a transportation incident involving plutonium is a critical component in obtaining this public acceptance. State and local response personnel, however, do not have ready access to specialized equipment and training required to make a radiological assessment of a transportation accident involving weapons-grade plutonium. It is incumbent on DOE to make such equipment and training available to response personnel in jurisdictions through which plutonium would be shipped under this EIS.

2

The EIS discusses in some detail both the postulated effects of plutonium disposition facility accidents and accidents during transportation of plutonium between DOE sites. The information presented, however, is incomplete, and does not present a true picture of the potential severity of an accident involving weapons grade plutonium. Some of the issues that I feel need to be addressed in the final EIS are:

3

- 1) The EIS does not present sufficient information regarding the short-term and long-term effects of the deposition of plutonium either during a transportation accident or a facility accident. The EIS does mention that long-term effects of plutonium deposition, including the resuspension and

WD023

assets are available to support offsite officials in the event of a radiological incident. Facilities/sites should coordinate with offsite officials to provide information on the availability and capabilities of DOE radiological emergency response assets. Facility/site plans should describe integrated support from other offsite response organizations responding to emergencies. The organizations may include groups from outside the facility/site (emergency planning zone) that respond under provisions of the Federal Radiological Emergency Response Plan for radiological emergencies; the National Oil and Hazardous Substances Pollution Contingency Plan, also known as the National Contingency Plan, for oil and nonradiological hazardous material emergencies; or the Federal Response Plan, if the situation is declared an emergency or major disaster by the President. If the county(ies) is declared a Presidential disaster area and the Federal Response Plan is activated, FEMA will establish a Disaster Field Office, from which Federal and State personnel will coordinate activities.

WD023-3

Facility Accidents

Appendix K.1.4.2 provides the rationale for focusing on the inhalation pathway when calculating plutonium dose. This is the pathway of significance for estimating doses due to the postulated accidents analyzed in this SPD EIS. While these accidents would deposit plutonium on the ground, there would be ample opportunity to interdict any potential significant doses from resuspension or through food or water pathways. The consequences, therefore, would be mainly economic rather than health related. The transportation analysis deals with the risk of all accidents along a route, rather than the consequences of a single accident at a specific location. Appendix L.8.4 presents a description of the uncertainties inherent in this approach. Appendix L.6.3 was revised to include a description of specific impacts of hypothetical accidents.

In general, economic costs can not be calculated with any reasonable degree of accuracy. Because of this, as well as the very low probability of accidents of the magnitudes considered for purposes of analysis, the impacts on natural-resource-related economies were regarded as beyond the scope of analysis. Long-term effects of contamination following a facility or transportation accident were not analyzed in detail for this EIS because the

inhalation of plutonium and the ingestion of contaminated crops are controllable through interdiction. In previous discussions, DOE has indicated that it views the effects of deposited radioactive materials as being more in the “environmental” arena than the “emergency response” arena. DOE should fully discuss the potential for ground contamination resulting from facility or transportation accidents, and discuss the short-term and long-term effects of such contamination, including the need for interdiction of lands and agricultural restrictions.

3

2) The EIS does not discuss the potential for facility incidents initiated by malevolent acts. The EIS does briefly discuss malevolent acts related to transportation of plutonium by Safe Secure Trailer (SST), and dismisses them with the statement that “in no instance, even in severe cases ... could nuclear explosion or permanent contamination of the environment leading to condemnation of land occur.” I find this view, particularly in today’s environment of global unrest, to be particularly troubling. I strongly urge DOE to revisit both the facility and transportation accident sections of the EIS, and to specifically consider the effects of incidents initiated by malevolent acts. If necessary, this analysis could be presented as a classified appendix to the final EIS and an unclassified summary for publication.

4

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risk would be much lower than that associated with inhalation. Moreover, quantitative analysis of low-level contamination would require significant accident-, weather-, and site-specific analysis. In the unlikely event of an accident, DOE would thoroughly investigate potentially affected areas and determine the need for interdiction or other specific actions.

WD023-4

Facility Accidents

The possibility of malevolent acts is controlled through the DOE safeguards and security provisions that are associated with facility operations. Guidance in *Recommendations for the Preparation of Environmental Assessments and Environmental Impact Statements* (DOE Office of NEPA Oversight, May 1993) states that impacts should be analyzed if they are reasonably foreseeable. The definition of reasonably foreseeable requires that the analysis is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason. Malevolent acts are considered conjecture and were therefore excluded from analysis. Appendix L.6.5 was revised to expand the qualitative description of the consequences of malevolent acts during transportation.

3) The EIS does not discuss potential doses to emergency personnel responding to either facility or transportation accidents. Transportation accidents pose several challenges, particularly since Transportation Safeguards Division (TSD) convoys no longer carry radiation detection equipment. In the recently published report "Independent Oversight Evaluation of Emergency Management across the DOE Complex" (DOE Office of Environment, Safety and Health, July 1998), the DOE Office of Oversight notes that it took some 20 hours for a Radiation Assistance Program (RAP) team to determine that there had been no radiological release from a 1996 SST accident in Valentine, Nebraska involving nuclear weapons. As mentioned above, state and local response personnel do not typically have ready access to specialized equipment required for monitoring for weapons-grade plutonium, and the lack of a timely and credible radiation monitoring capability may significantly hamper response efforts, and may endanger response personnel.

5

4) The above-referenced report by the DOE Office of Oversight noted several complex-wide generic "weaknesses" in DOE emergency preparedness, including event classification and the determination of protective actions. The report noted that "(t)he Savannah River Site (SRS) emergency management program is fundamentally sound and includes the essential elements required by DOE orders." The report, however, does note that "the emergency

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WD023-5

Facility Accidents

The estimation of doses to emergency response personnel is not within the scope of the SPD EIS analysis. Response personnel are trained, protected, monitored for exposure, and restricted to specific dose limits. As discussed in Appendix K.1.4.1, calculation of specific doses to emergency response personnel is subject to the same analytical difficulties as calculation of doses to facility workers, so is not considered meaningful.

Transportation of special nuclear materials would use DOE's SST/SGT system. Since the establishment of the DOE Transportation Safeguards Division in 1975, the SST/SGT system has transported DOE-owned cargo, including pits, over more than 151 million km (94 million mi) with no accidents causing a fatality or release of radioactive material. The shipment of nuclear material (e.g., depleted uranium) using commercial carriers would be the subject of detailed transportation plans in which routes and specific processing locations would be discussed. These plans are coordinated with State, tribal, and local officials. The shipment of waste would be in accordance with the decisions reached on the *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste* (DOE/EIS-0200-F, May 1997) and the *WIPP Disposal Phase Final Supplemental EIS* (DOE/EIS-0026-S-2, September 1997). The transportation of special nuclear materials is the subject of detailed planning with DOE's Transportation Safeguards Division. The dates and times that specific transportation routes would be used for special nuclear materials are classified information; however, the number of shipments that would be required, by location, has been included in this SPD EIS. Additional details are provided in *Fissile Materials Disposition Program SST/SGT Transportation Estimation* (SAND98-8244, June 1998), which is available on the MD Web site at <http://www.doe-md.com>.

For emergency response planning, all shipments are coordinated with appropriate law enforcement and public safety agencies. If requested, DOE would assist these officials with response plans, and, if necessary, with resources in accordance with DOE Order 5530.3, *Radiological Assistance Program*. DOE has developed and implemented a Radiological Assistance Program to provide assistance in all types of radiological accidents. Through

operations center lacks an effective process and mechanisms to perform timely and accurate assessments of emergency event consequences”, and recommends that SRS “(i)mprove the consequence assessment process to ensure that source term estimation, dispersion modeling, consequence assessment, and formulation of protective actions can be completed in a timely manner”. The report further recommends that SRS “(p)rovide additional policy, guidance, and training to improve prompt and conservative classification decision-making by responsible emergency response organization personnel.” The report did not discuss emergency management capabilities at Pantex.

6

Thank you for the opportunity to provide comments on this draft EIS.

James C. Hardeman, Jr.
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 Lawrenceville, GA 30043
 hardeman@mindspring.com

WD023

this coordination and liaison program DOE offers in-depth briefing at the State level. These activities would ensure that State and local officials are prepared for the initial response and that specialized equipment commensurate with the potential severity of the accident would be available. In the event of an accident, if requested by a State, tribal, or local agency, DOE would send a radiological monitoring assistance team from the closest of eight DOE regional offices located across the country.

WD023-6

Facility Accidents

It is not within the scope of this SPD EIS to address independent reviews of site-specific programmatic areas such as emergency preparedness. The existence of recommendations to improve what has been judged to be a “fundamentally sound” emergency management program at SRS does not invalidate the analyses performed for this EIS.

As part of the development of a transportation plan, details of emergency preparedness, security, and coordination of DOE with local emergency response authorities would be addressed before any hazardous material was shipped. Any additional training or equipment needed would be provided as part of the planning process. In addition to direct Federal assistance to State, tribal, and local governments for maintaining emergency response programs, there are national emergency response plans under which DOE provides radiological monitoring and assessment assistance. Under these plans, DOE provides technical advice and assistance to the State, tribal, and local agencies who might be involved in responding to a radiological incident.

This comment is being submitted by J., the initial J, Larry Harrison, 4175 Quinn Court, in Evans, Georgia 30809, work phone area code 803-208-7182. I'm commenting on the Surplus Plutonium Disposition, in particular, the pit disassembly and conversion process. Before I transferred to the Savannah River Site in 1992, I was involved with process development optimization for a production of commercial nuclear fuel for over 20 years. And despite all of the political pressures at work in determining the location of the pit disassembly and conversion facility, the final decision should be made on the basis of which location will provide the safest most efficient operation of all facilities involved in the disposition effort. I 'd like to provide some input based on my commercial nuclear fuel fabrication experience. Though this, this experience was with uranium oxide pellets, the only type utilized in U.S. commercial reactors for power generation. It is still pertinent to mixed oxide (MOX) fuel pellets made from a blend of primarily uranium oxide with some plutonium oxide. I have worked for two different fuel fabricators, one where the conversion to uranium oxide powder was performed within the same facility as the fuel fabrication and another where the conversion process was located several hundred miles away from the fuel fabrication plant. The problems observed with the latter situation brings to mind some factors which need to be considered when selecting a site for the conversion facility. The manufacture of nuclear fuel is very difficult and an exacting process. The

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PD058-1

Alternatives

DOE acknowledges the commentor's support for siting both the pit conversion and MOX facilities at SRS. DOE appreciates the commentor sharing technical reasons for collocating the pit conversion and MOX facilities, based on many years of working in fuel fabrication. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

final acceptance or rejection of fuel may hinge on the particle size of distribution of the starting powder, parts per million of impurities, the impurity of the atmosphere gas in the furnace used to thermally treat the pellets, or a few ten thousandths of an inch in the pellet diameters after grinds, is to name just a few variables. Properties of oxide powder have a significant impact on the process fuel in fabricating pellets. It is difficult to write specifications for the powder to cover all variables which can impact the pelleting process and ultimately the acceptability of the fuel. It is a combination of the powder properties and variables and pelleting process which determine the final pellet characteristics. With MOX fuel the powder properties are particularly important as the blend of uranium and plutonium oxides must be extremely uniform. It is also difficult to perform testing in a lab scale equipment and reliably predict the outcome when the same material is processed through a production line because of many variables which influence final pellet characteristics. Location of the conversion facility in close proximity to the MOX fabrication plant would provide the opportunity for testing of material when needed. A hypothetical situation might be a batch of plutonium oxide powder which is barely out of specification. If a sample can be run through the nearby MOX facility and is determined acceptable pellets can be made, the cost of scraping and remaking powder can be avoided. This

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potential would not exist if the conversion and MOX plants are hundreds of miles apart. Due to the safety and security concerns associated with transporting plutonium, it would not be practical to build a MOX production line at the conversion facility solely for testing purposes. Due to the difficulty in detecting subtle changes in plutonium oxide powder properties, the problem may not be detected until the material is processed in the MOX facility. If the conversion facility site is distant from the MOX plant there will probably be more material in the “pipeline” with the same problem than if, if operations were adjacent to each other, again, due to the problems associated with transporting plutonium. DOE should carefully consider what capabilities are needed for purification, if any, to make acceptable plutonium oxide powder for fabricating commercial nuclear fuel and whether that processing is performed at the conversion or MOX facility or both. Also the capability to recycle and purify MOX scrap must be addressed. There are advantages in locating the purification capabilities at the conversion facility, and, if aqueous versus dry purification is deemed necessary, SRS is the obvious choice for conversion due to the existing capability to handle associated waste streams, while Pantex has none. Other considerations in selecting the pit disassembly and conversion site is analyzing the risks and costs associated with transporting plutonium in a form of pits to SRS, if the facility is located there versus transporting plutonium oxide from Pantex to SRS if the facility is at Pantex.

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Also even though there is a lot of experience with fabrication of MOX fuel outside the U.S., the plutonium oxide source was the recycle process versus weapons material. This difference will almost assuredly have some impact on MOX fuel fabrication require additional process development. This is another reason for co-locating the conversion and the MOX fuel fabrication facilities. Given that SRS is the site of choice for the MOX facility, above reasons and others clearly show that the pit disassembly and conversion should be located there also. I will submit a written copy of this by mail. Thank you very much. Bye.

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PD058

HYDE PARK AND ARAGON PARK IMPROVEMENT COMMITTEE, INC.
CHARLES N. UTLEY
PAGE 1 OF 2

HYDE PARK AND ARAGON PARK
IMPROVEMENT COMMITTEE, INC.
2024 Golden Rod Street
Augusta, Georgia 30901

August 13, 1998

Department of Energy Public Hearing
North Augusta, South Carolina

The Hyde Park, Aragon Park and Virginia Subdivision communities consist of approximately 1,500 to 2,000 residents. We are in favor that Surplus Plutonium Disposition be awarded to the SRS site with the following request:

-That jobs be given to qualified persons living in the CSRA (Central Savannah River Area) first before importing workers from outside the area.

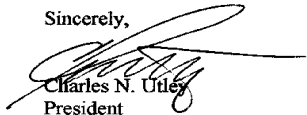
-That DOE put in place safe-guards against political sabotage, for example; that budget restraints don't leave the area with undesirable contamination. That political parties Democrats/Republican don't abandoned the project for party sake. That the Department of Energy keep this process in place until all phases of the process is completed to include clean-up.

-That SRS/DOE continue to consider the highest/safest method of transporting material through communities, be at it's highest quality at all times. This is to assure that the communities that the route will be taken will be the most excluded route to avoid contact with communities.

-That workers safety will never be abandoned for the sake of the production. That workers safety continue to a number one priority for DOE/SRS as it has been in the past.

-That DOE/SRS remove the finish product in a reasonable time frame and that SRS never becomes a permanent storage place.

Sincerely,



Charles N. Utley
President

SCD11

SCD11-1

DOE Policy

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. The proposed facilities would be built and operated based on a competitive contract award. DOE would defer to the winning contractors to hire and train the people needed to build and operate the proposed facilities. As such, DOE cannot mandate that all the positions be filled by people living within the Central Savannah River Area, but it is likely that many of the positions would be filled by local hires.

SCD11-2

DOE Policy

DOE acknowledges the commentor's concern that the surplus plutonium disposition program has the support necessary to reach completion. The U.S. Congress will continue to appropriate the funds necessary to honor the agreements made by Presidents Clinton and Yeltsin regarding mutual reduction of plutonium stockpiles. When the missions have been completed and the surplus plutonium disposition facilities are no longer needed, deactivation and stabilization would be performed. As discussed in Section 4.31, features are being incorporated into the designs that would allow future deactivation and stabilization activities to be performed more quickly and easily to reduce the risk of radiological exposure; reduce the costs associated with long-term maintenance; and prepare the buildings for potential future use. DOE will evaluate options for D&D or reuse of the proposed facilities at the end of the surplus plutonium disposition program. At that time, DOE will perform engineering evaluations, environmental studies, and further NEPA review to assess the consequences of different courses of action.

SCD11-3

Transportation

DOE acknowledges the commentor's concern about transportation. As described in Appendix L.3.3, transportation of nuclear materials would be performed in accordance with all applicable DOT and NRC transportation requirements. Interstate highways would be used, and population centers avoided, to the extent possible.

The transportation of special nuclear materials is the subject of detailed planning with DOE's Transportation Safeguards Division. The dates and times that specific transportation routes would be used for special nuclear

materials are classified information; however, the number of shipments that would be required, by location, has been included in this SPD EIS. Additional details are provided in *Fissile Materials Disposition Program SST/SGT Transportation Estimation* (SAND98-8244, June 1998), which is available on the MD Web site at <http://www.doe-md.com>.

Transportation of special nuclear materials, including fresh MOX fuel, would use DOE's SST/SGT system. Since the establishment of the DOE Transportation Safeguards Division in 1975, the SST/SGT system has transported DOE-owned cargo over more than 151 million km (94 million mi) with no accidents causing a fatality or release of radioactive material. As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures or vehicle emissions are expected.

SCD11-4

DOE Policy

DOE acknowledges the commentor's concern regarding worker safety at SRS. The health and safety of both workers and the public is a priority of the surplus plutonium disposition program. DOE would comply with all pertinent Federal, State, and local laws and regulations and would meet all required standards. Chapter 5 summarizes the pertinent environmental regulations and permits required by the surplus plutonium disposition program.

SCD11-5

DOE Policy

It is not DOE's intention to make SRS a permanent storage site for surplus plutonium disposition material. MOX fuel would be transported to commercial reactors to be used. The resulting spent fuel would be temporarily stored at the reactor sites until it is sent to a potential geologic repository for permanent disposal. Immobilized plutonium would be temporarily stored at SRS until it is sent to a potential geologic repository for permanent disposal as and when the repository becomes operational. For purposes of this SPD EIS, DOE has prepared a separate EIS, *Draft Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada* (DOE/EIS-0250D, July 1999), which analyzes the environmental impacts from construction, operation and monitoring, related transportation, and eventual closure of a potential geologic repository.



United States
Department
of Energy

Comment Form

NAME: (Optional) Robert Ingham
ADDRESS: 311 WINDSOR CT, HENRIETTA, GA 30815
TELEPHONE: (706) 771-9600
E-MAIL:

PUBLIC AWARENESS ALLOWS FOR
PUBLIC RESPONSIBILITY

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SEE RICHMOND COUNTY DEMOCRATIC COMMITTEE
FOR E-MAIL
ROBERT INGHAM -
OR GEORGIA EDUCATORS

SCD64

SCD64-1

General SPD EIS and NEPA Process

DOE acknowledges the commentor's views on the value of public awareness in connection with the surplus plutonium disposition program. DOE used several means to solicit comments on the surplus plutonium disposition program from the public; State, local, and tribal officials; special interest groups; and other interested parties. These include mail, a toll-free telephone and fax line, and the MD Web site. In addition, DOE has conducted public hearings in excess of the minimum required by NEPA regulations on the weapons-usable fissile materials disposition program and discussed materials disposition in many other public forums. Moreover, MD has produced fact sheets, videos, reports, and other information on issues related to surplus fissile materials disposition to enable the public to participate in a meaningful way.

INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS
T. S. YARBROUGH
PAGE 1 OF 1



International Brotherhood of Electrical Workers

LOCAL UNION 1579
 1250 REYNOLDS STREET

AUGUSTA, GEORGIA 30901

Phone: (706) 722-6357 • Fax: (706) 724-9792

August 13, 1998

MOX & PIT DISASSEMBLY & CONVERSION PROJECTS

- The Augusta Building & Construction Trades Council is a major stakeholder of SRS. Our construction workers are the true cold war warriors.
- I want to voice the Building Trades unequivocal support for SRS to be the DOE's choice as the site for plutonium disposition. Our craftsmen not only have built nuclear and chemical operating facilities but they also have performed millions of hours of work under radiological conditions. They understand the strict discipline it requires to safely perform under these conditions.
- Speaking of safety, we in the South have good manners and we will not talk badly about another DOE site. However, I do want to let you know what our construction crafts have achieved in an extremely hazardous industry. Working with our contractors, our goal is "Zero Accidents". This means we view "no injury" to be acceptable. Since 1989 we have achieved the following records:
 1. 1,000,000 million SAFE hours = 29 times
 2. 2,000,000 million SAFE hours = 9 times
 3. 2,500,000 million SAFE hours = 4 times
 4. 5,000,000 million SAFE hours = 1 time
- SAFE Hours means we did not experience any lost workday cases. It means our members came home to their families every evening the same way they left for work in the morning – with all of their fingers, with both hands, with both arms, with both legs and with a smile on their face because they know that SAFETY is important at the Savannah River Site!

Working with Bechtel, we established the S. A. F. E. – T process (Self-Awareness for Employees Team). Our craft stewards and workers designed a NO NAME – NO BLAME process that heightens worker awareness of safe and at-risk practices. We have Craft Workers observing work activities and provide feedback to reinforce positive or safe actions, and to help bring attention to at-risk work practices through discussion with the worker at the conclusion of the observation. We encourage comments to identify strengths and weaknesses in our safety effort.

I challenge you to find a better construction safety environment in the DOE complex.

- I don't want to take all of your time, so let me just summarize by saying that both MOX and the PIT DISASSEMBLY projects should be located here. The Building Trades and the entire community of the CSRA have supported SRS since the first shovel of dirt. We have the skilled workforce to SAFELY build and operate these facilities.

All we need is y'all to make a quick decision and let's go to work!

Thank you,

T. S. Yarbrough,
 Business Manager & Financial Secretary

SCD10

SCD10-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

My name is Joan King. I'm living in White County, North Georgia. I followed nuclear issues for some time and have attended numerous DOE hearings. I'm familiar with the disposition problem. I've been down to Savannah, down to Augusta when they were discussed and I am opposed to using MOX fuel. I think this is a very slippery path that will lead to many many more problems in the future. I know we have to dispose of this stuff. I think we have the ability to glassify it to do a number of things. I know the government promises a once through process but there is no way they can control this in the future. We don't have the institutional consistency to be able to assure people that this will take place.

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We need to immobilize this in glass and get it underground. We do not need to promote the nuclear industry by giving them another form of fuel. That if heading toward a plutonium economy which will be disastrous for the rest of the world and for future generations. My number is area code 706-878-3459. I appreciate this and I am going to try follow it up with a fax to restate these so you will have a hard copy for the record. Thank you very much. Bye.

2

PD001

PD001-1

Alternatives

DOE acknowledges the commentator's opposition to the MOX approach to surplus plutonium disposition. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

U.S. policy dating back to the Ford Administration has prohibited the commercial, chemical reprocessing and separation of plutonium from spent nuclear fuel. The use of U.S. surplus plutonium in existing domestic, commercial reactors does not involve reprocessing (reprocessing is a chemical separation of uranium, transuranic elements [including plutonium], and fission products from spent reactor fuel and the reuse of the plutonium and uranium to produce new fresh fuel). The proposed use of MOX fuel is consistent with the U.S. nonproliferation policy and would ensure that plutonium which was produced for nuclear weapons and subsequently declared excess to national security needs is never again used for nuclear weapons. To this end, surplus plutonium would be subject to stringent control, and the MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program.

PD001-2

Alternatives

Use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors.

ATTENTION: DOE, Department of Storage and Disposition of Fissile Materials

This fax is a follow-up to a comment made by phone from Joan O. King made today, July 22, 1998

I have followed nuclear issues for many years and have attended DOE hearings of the Storage and Disposition of surplus fissile material. I am opposed to the use of plutonium as reactor fuel__the MOX option.

We have adequate methods for immobilizing fissile material taken from dismantled nuclear weapons. We had adequate sources of uranium for new fuel. We do not need to do anything that would promote a "plutonium economy" or encourage reprocessing by any nation including our own.

I have heard the arguments in favor of burning plutonium in U.S. reactors and the government's promise of a "once through" process. These are good intentions, but there is no way the present government can control what is done in the future. History has proved the fragility of promises like this.

DO NOT PROMOTE ANY PROGRAM THAT USES PLUTONIUM AS FUEL.

Joan O. King
304 Manor Drive
Sautee, GA 30571

(706) 878-3459

1

2

FD001

FD001-1

Alternatives

DOE acknowledges the commentor's opposition to the MOX approach to surplus plutonium disposition. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

U.S. policy dating back to the Ford Administration has prohibited the commercial, chemical reprocessing and separation of plutonium from spent nuclear fuel. The use of U.S. surplus plutonium in existing domestic, commercial reactors does not involve reprocessing (reprocessing is a chemical separation of uranium, transuranic elements [including plutonium], and fission products from spent reactor fuel and the reuse of the plutonium and uranium to produce new fresh fuel). The proposed use of MOX fuel is consistent with the U.S. nonproliferation policy and would ensure that plutonium which was produced for nuclear weapons and subsequently declared excess to national security needs is never again used for nuclear weapons. To this end, surplus plutonium would be subject to stringent control, and the MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program.

FD001-2

DOE Policy

For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation would be a once-through cycle with no reprocessing.

**LOWER SAVANNAH COUNCIL OF GOVERNMENTS
HONORABLE W. H. BURKHALTER ET AL.
PAGE 1 OF 1**

**RESOLUTION
SUPPORTING THE SAVANNAH RIVER SITE'S MAJOR PLUTONIUM MISSIONS**

WHEREAS, the handling and disposition of excess weapons plutonium is of grave concern to the national security of the United States; and

WHEREAS, plutonium disposition represents one of the most certain future missions of the DOE for the next 20 to 30 years; and

WHEREAS, the Department of Energy has decided to pursue a dual path for plutonium disposition and has named the Savannah River Site as a candidate site for both options; and

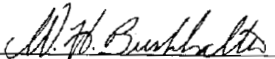
WHEREAS, the Savannah River Site has produced approximately 40 percent of all U.S. weapons grade plutonium over the last 45 years and has safely handled plutonium in glovebox processing equipment with no adverse impact on the workers, the public or the environment; and

WHEREAS, the Department of Energy in its Record of Decision recognizes the Savannah River Site as "a plutonium competent site with the most modern, state-of-the-art storage and processing facilities...with the only remaining large-scale chemical separation and processing capability in the DOE complex"; and

WHEREAS, the Lower Savannah Region strongly supports continued plutonium missions for the Department of Energy's Savannah River Site;

NOW BE IT RESOLVED THAT the Lower Savannah Council of Governments strongly endorse major plutonium missions for the Savannah River Site and urges the Department of Energy to designate the Savannah River Site as its lead facility in plutonium management and disposition.

APPROVED THIS 13th DAY OF MARCH 1997, BY THE BOARD OF DIRECTORS OF THE LOWER SAVANNAH COUNCIL OF GOVERNMENTS.


Chairman
Lower Savannah Council of Governments


Executive Director
Lower Savannah Council of Governments

SCD87

SCD87-1

Alternatives

DOE acknowledges the commentors' support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

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**LOWER SAVANNAH COUNCIL OF GOVERNMENTS
HONORABLE S. J. ROBINSON ET AL.
PAGE 1 OF 1**

**RESOLUTION SUPPORTING THE SAVANNAH RIVER SITE'S
MAJOR PLUTONIUM MISSIONS**

WHEREAS, the handling and disposition of excess weapons plutonium is of grave concern to the national security of the United States; and

WHEREAS, plutonium disposition represents one of the most certain future missions of the DOE for the next 20 to 30 years; and

WHEREAS, the Savannah River Site has produced approximately 40 percent of all U.S. weapons grade plutonium over the last 45 years and has safely handled plutonium in glovebox processing equipment with no adverse impact on the workers, the public or the environment; and

WHEREAS, the Department of Energy has expressed its confidence in the Savannah River Site by designating SRS as the preferred location for MOX fuel fabrication and immobilization; and

WHEREAS, the Department of Energy in its Record of Decision recognizes the Savannah River Site as a "plutonium competent site with the most modern, state-of-the-art storage and processing facilities...with the only remaining large complex"; and


WHEREAS, the Lower Savannah River Region strongly supports continued plutonium missions for the Department of Energy's Savannah River Site, including pit disassembly and conversion.

NOW BE IT RESOLVED THAT the Lower Savannah Council of Governments strongly endorses major plutonium missions for the Savannah River Site and urges the Department of Energy to designate the Savannah River Site as its preferred facility for plutonium pit disassembly and conversion.

APPROVED THIS 10TH DAY OF AUGUST 1998, BY THE BOARD OF DIRECTORS OF THE LOWER SAVANNAH COUNCIL OF GOVERNMENTS.



Chairman, Lower Savannah Council of Governments



Executive Director, Lower Savannah Council of Governments

SCD07-1

Alternatives

DOE acknowledges the commentors' support for the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.



United States
Department
of Energy

Comment Form

NAME: (Optional) GREG LOWRY
ADDRESS: 2212 RICHARDS ROAD AUGUSTA, GA. 30906
TELEPHONE: (706) 796 1942
E-MAIL: _____

- DOE SHOULD LOCATE ALL OF THE PLUTONIUM MISSIONS AT SAVANNAH RIVER SITE, INCLUDING THE PIT DISASSEMBLY OPERATIONS.
- SRS HAS THE PEOPLE WITH THE BACKGROUND NEEDED FOR THESE PROJECTS, COMMUNITY SUPPORT, AND AN UNPARALLELED SAFETY RECORD.
- LOCATING ALL THE PLUTONIUM DISPOSITION ACTIVITIES AT SRS WOULD BE MOST EFFECTIVE.

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SCD55

SCD55-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.



United States
Department
of Energy

Comment Form

NAME: (Optional) Nancy J Lowry
ADDRESS: 2212 Richards Road, Augusta, GA 30906
TELEPHONE: (706) 796-1942
E-MAIL: _____

SRS has the technical expertise needed to safely conduct the plutonium pit disassembly & conversion. SRS' safety record is one of the best in the world - another important consideration. SRS people know how to manage plutonium.

SRS has safely managed more varied and complex programs than Pantex.

It makes sense to consolidate all the plutonium disposition activities at SRS. The logistics are better than they would be if the pit disassembly operations were located at Pantex. It would be more cost effective as well.

DOE would show both technical wisdom and financial responsibility by locating the plutonium pit disassembly operations at SRS.

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SCD56

SCD56-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.



United States
Department
of Energy

Comment Form

NAME: (Optional) Larry Milton
ADDRESS: 242 Napa Dr. Augusta, GA 30909
TELEPHONE: () _____
E-MAIL: _____

Overall an excellent public meeting.

Concerning the EIS report:

Why has aqueous processing been left out of the alternatives being considered. Specifically, aqueous dissolution of pits directly, versus the dry process should be more thoroughly evaluated for the pit disassembly and conversion option.

Aqueous processing is a proven technology versus the dry processing technology which is in development and has not been proven.

Also, use of the existing aqueous processing facilities at SRS would be very cost effective versus construction of a new facility.

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SCD94

SCD94-1

Plutonium Polishing and Aqueous Processing

Use of the F-Canyon at SRS to convert plutonium for use in either the immobilization or MOX facilities would require reconfiguring the canyon and keeping it in operation for another 10 years or more. DOE has already made a commitment to the public, the U.S. Congress, and DNFSB to shut the canyon down. DOE presented the SRS Chemical Separation Facilities Multi-Year Plan to Congress in 1997. This plan provides the DOE strategy for the expeditious stabilization of SRS nuclear materials in accordance with DNFSB Recommendation 94-1, and provides for the early stabilization of certain limited quantities of plutonium materials from RFETS. Once this stabilization effort is complete, the canyon would be shut down and D&D activities would begin.

The *Storage and Disposition PEIS* evaluated a homogenous ceramic immobilization facility that used an aqueous plutonium conversion process similar to that used in the SRS canyons. As shown in Section 4.29 of this SPD EIS, this process would require much larger quantities of water and other resources, and generate significantly more waste (between 2 and 191 times more depending on the waste category [see Table 4-224]) than the proposed processes included in this EIS. Based on this information, the aqueous plutonium conversion process was not considered to be reasonable and was eliminated from further study in this EIS.

**Surplus Plutonium Disposition Draft Environmental Impact Statement
Public Meeting
August 13, 1998
North Augusta Community Center**

Comments by Dr. Christopher Noah

Thank you for the opportunity to provide comments on this draft EIS. My comments center on land use and environmental suitability of siting this project at the Savannah River Site. I do not make these comments **only** because I believe SRS is the best place for this project but because I have a background in examining the impacts of large-scale facilities.

In the 1970's I lead a team that planned the future use of the State of Alaska.

Also, for the eight years in Alaska I was an environmental planner, Director of the Council on Science and Technology and Deputy Commissioner of Environmental Conservation. During that time I had the responsibility for determining the environmental suitability for many large-scale projects such as the Trans-Alaska pipeline, a world-class molybdenum mine and one of the largest lead mines in the world.

I am past chair of the Federal Planners Division of the American Planning Association

I have taught NEPA and Environmental Policy courses.

I have been involved in approximately 20 siting studies of potential new missions at SRS.

SCD31

I wrote a comprehensive report on the future of SRS, including new missions and environmental impacts.

Finally, my education includes a masters degree in environmental affairs and a doctorate in environmental policy.

Land Use Qualities of SRS

From a land use perspective SRS is ideal. One of its most important land use attributes is its size. It is 310 square miles - Compared to this project's competitor's 25 square miles. From a land use perspective, this is significant. The size of the site ensures safety, security and enhances project diversity. Also, SRS possesses a complete suite of infrastructure for large scale projects, including: a recently upgraded water system (and access to additional water if needed through the intakes from the Savannah River), a state of the art communications system, newly constructed bridges, more than adequate electricity, upgraded roads, and a state of the art weather center, to name a few.

In 1996, I completed a large study of SRS – examining the potential future uses of SRS in light of the potential downsizing associated with the ending of the Cold War. For the report, I used SRS as a model. My conclusion from the 3-year study was that SRS was the perfect site to use as an example of how multiple, major industrial projects could co-exist. Complementing one another, thus saving money.

SCD31

SCD31-1

Alternatives

DOE acknowledges the commentor's support for the surplus plutonium disposition program at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

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Environmental Qualities of SRS

From an environmental perspective, SRS ranks high. SRS does more than competently and safely produce nuclear weapons components and clean up the nuclear legacy that won the Cold War. It has a large cadre of scientists who conduct ecosystem studies, environmental impact research, cultural investigations, weather studies, and technological remediation demonstrations.

Over the past decades, SRS staff and management have ensured that site operations and environmental programs exist in a symbiotic relationship. Site operations, endangered and threatened species, the forest ecosystem, and cultural resources have all complemented each other. This is not by accident. SRS management has made a concerted effort to instill the multiple use planning concept at the site. What this means is that at SRS, new projects are not viewed narrowly. They take in the entire spectrum of site activities – studying how new missions and the environment can supplement each other. This approach has salutary side benefits as well. The Savannah Ecology Laboratory, of the University of Georgia, the U. S. Forest Service, and the University of South Carolina, not only conduct extensive research at SRS but profile its environmental and cultural attributes through educational programs. One example is SRS's scout "Camporee" to teach thousands of girl and boy scouts about the environment. Many other regional and national universities work with the site on environmental, cultural and economic impacts – including many HBUCs (Historically Black Universities and Colleges).

So, no matter what you hear from SRS's detractors, SRS is environmentally safe - a productive, diverse set of ecosystems and programs that promote environmental stewardship. In fact, many have called SRS an "environmental island" as the attachment indicates.

NOAH, CHRISTOPHER
PAGE 4 OF 4

Finally, I would like to quote a short passage from the end of my three year report regarding new missions for SRS:

“As this study has detailed, weapons facilities can and should be used for environmental research, biodiversity, environmental technology demonstration, recreation, environmental education and resource management - and *still* produce nuclear materials.

Imagine a weapons site with an industrial core producing nuclear components...The central industrial core would be surrounded by environmental uses which were compatible with the industrial mission. In some cases the environmental uses would even complement the industrial mission. Examples of these uses would be experimentation with plants that passively remediate contaminated areas, bio-remediation technology demonstration, and materials recycling. The environmental uses would also *complement each other* and in some cases even be symbiotic (i.e., conducting recreation in a natural resource area or simultaneously undertaking research and public education). The environmental uses would draw in the public from surrounding communities, providing environmental and economic opportunities ...”

In conclusion, SRS is environmentally compatible with the Surplus Plutonium Disposition project. Additionally, it has the land use qualities which a professional planner looks for in such a project: a significant buffer, quality infrastructure, support facilities, little environmental impact, no social disruption, and room for expansion.

NSC DISCOVERY CENTER, INC
PHYLLIS H. HENDRY
PAGE 1 OF 1



My name is Phyllis Hendry and I am President of the National Science Center's Fort Discovery in Augusta, Georgia. As a citizen of this community, I am writing this letter to support the Savannah River Site (SRS) and its effort to obtain the third element of the DOE plutonium disposition mission - pit disassembly and conversion.

The Savannah River Site has a proven history in the handling of plutonium. Since SRS has been assigned as the Site of the Mixed Oxide Fuel Fabrication and immobilization missions, it only makes sense that the plutonium disposition mission, including pit disassembly and conversion, be located in the same place. The Pantex facility in Texas that is also being considered for the plutonium mission has never processed plutonium; therefore, there is no plutonium handling infrastructure in place. As a taxpayer, I understand that locating the plutonium mission at SRS can save taxpayers at least \$1.6 billion based on avoided costs of new structures and equipment that would be required at other DOE sites.

On a recent trip to Washington with the Metro Augusta and Aiken Chambers of Commerce and three other area Chambers, we visited with Frederico Pena and he indicated that community support would play a major part in the decision-making process. Several groups from our two-state area have met with the Secretary to express overwhelming support that the Savannah River Site has in this community. The Savannah River Site has a proven record that makes it the logical choice for the plutonium mission.

I appreciate the opportunity to support the Savannah River Site.

Sincerely,

Phyllis Henneey Hendry
 President
 NSC Discovery Center, Inc.



The National Science Center's
 Fort Discovery
 One Seventh Street on the Riverwalk
 Augusta, Georgia 30901
 Tel: 706.821.0000 or 800.325.5445
 Fax: 706.821.0288
www.nscdiscovery.org

SCD04

SCD04-1

Alternatives

DOE acknowledges the commentator's support for siting the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

August 13, 1998

Dear Mr. Nulton
US Department of Energy
Materials Disposition


It has been noted that the concern for severity and frequency of aircraft incidents decreases in the series of EIS documents published by DOE-MD compared to certain earlier studies including the PANTEX EIS. It is noteworthy that LANL studies on the same issue for DOE-DP and others are highly concerned with this issue and in particular with respect to Zone 12 and Zone 4. Zone 4 is where you plan to place the PDCF facility. Zone 12 or Zone 4 is not material since the entire PANTEX site is only 16,000 acres or roughly 5 by 5 miles.

In further support of this puzzling situation, the DNFSB in it's weekly reports has on several occasions highlighted the fact that even DOE and M&H do not fly radiological over-flights of these two zones for fear of the consequences of a helicopter crash. Now their concern is based upon the storage of metal pit parts and HE explosives. They have never had to consider the consequences of plutonium powder processing.

It is well known that the Amarillo area air facilities not only routinely service large commercial aviation aircraft – flights, storage depot, etc.; but, they also service a significant contingent of air force B-1s and tankers.

What has been the basis for your analysis? Does DOE intend to follow the US NRC protocol (NUREG – 0800)? The NUREG – 0800 protocol is the standard official US criteria for nuclear facilities and has been a cornerstone of nuclear regulation for years. If you have deviated from this protocol, please explain the rationale especially in light of the DOE thrust to become NRC regulated and to meet the same criteria.

I submit this letter to you with NUREG – 0800 attached to help in simplifying the process of future conformance to NRC regulations and in the hope of avoiding a major dispersal of PuO₂ over the landscape of a major food processing area of the US.


Blake Seward
Evans, Georgia

Attachment: NUREG-0800 (US Nuclear Regulatory Commission Standard Review Plan, Office of Nuclear Reactor Regulation.)

SCD02

SCD02-1

Facility Accidents

DOE acknowledges the commentor's concern regarding aircraft accidents. Decreases in aircraft crash frequency in this SPD EIS relative to other documents such as the *Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage with Nuclear Weapon Components* (DOE/EIS-0225, November 1996) are largely due to the smaller effective target area of the pit conversion and MOX facilities as compared with the entirety of Zone 4 or Zone 12. The possibility of plutonium powder processing is indeed new at Pantex, and this EIS addresses this concern in the accident analysis primarily in the higher fraction of material that becomes airborne as a result of the hypothesized accidents. The resulting potential impacts will be considered in the decisionmaking process.

SCD02-2

Facility Accidents

The primary basis for the accident analysis is *Recommendations for the Preparation of Environmental Assessments and Environmental Impact Statements* (DOE Office of NEPA Oversight, May 1993). The methodology is based on that outlined in *Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Safety Analysis Reports* (DOE-STD-3009-94, 1994). In accordance with that standard, radiological releases were analyzed in terms of the specific release phenomenology as documented in *Airborne Release Fractions/Rates and Respirable Fractions for Nonreactor Nuclear Facilities* (DOE-HDBK-3010-94, October 1994). *Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants* (NUREG-0800, July 1981), is not directly applicable to nonreactor facilities.



United States
Department
of Energy

Comment Form

NAME: (Optional) Cameron Sherer
ADDRESS: 4634A Hardy McManus Rd., Evans, Ga, 30809
TELEPHONE: (706) 863-9487
E-MAIL: C.Sherer@peachnet.com

I appreciate DOE holding these meetings and willing to listen to the public, elected officials, and concerned citizens. I never was a member of the U.S. Armed Forces and I look back on this with regret. I feel a need to give something back to this nation that has given so much to me. As an employee at SRS for over 17 years I am proud of the fact that SRS was an important factor in the ending of the cold war. The production of PU at SRS helped bring down the Iron Curtain.

I ask DOE to bring all the PU disposition missions to SRS and let us finish what we started.

Thank you
Cameron Sherer

SCD66

SCD66-1

Alternatives

DOE acknowledges the commentator's support for the surplus plutonium disposition program at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

Bill Thompson, President and CEO
Sun Trust Bank, Augusta

As a member of the business community in this area, I would like to welcome our visitors from the Department of Energy Headquarters to SRS country.

We are extremely proud of SRS, its contribution to our National Security, its history of unmatched safety and production performance, and the many employees who have worked there and those who work there today. This pride and support extends throughout this area and joins our two states in common interest and objectives.

The Plutonium Disposition Program is important to our Nation and to the world. DOE should be commended for its leadership and progress on this program. SRS and this community support this program and stands ready to accept full responsibility for its successful completion. We are proud that SRS has been selected as the preferred site for the Mixed Oxide Fuel and Immobilization missions of this program. We now focus our attention to the third mission of the program, Plutonium Pit Disassembly and Conversion.

Many of us do not understand the finite technical details of plutonium and other nuclear materials. But, we do understand concepts of infrastructure, experience, expertise, and demonstrated performance in safety and environmental protection. We also understand that to duplicate at Pantex what already exists to support this mission at SRS will cost hundreds of millions of dollars. This unto itself is enough to declare that SRS is preferred over Pantex.

As a taxpayer, it makes clear sense to me to consolidate all of the missions for Plutonium Disposition at SRS. I encourage DOE not to overlook the hundreds of millions of dollars in savings which would be realized through this consolidation. I encourage DOE to go back and review this draft EIS to correct the many cost and logic errors which appear to have been generated in an attempt to level the field between SRS and Pantex. The errors are many and too numerous to delineate here, but once corrected, it will be clear that SRS is the preferred site for Pit Disassembly and Conversion.

Consolidation at SRS is the right thing to do for our Nation, this community and the taxpayers.

Thanks you for this opportunity to provide comments on this extremely important program.

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SCD20

SCD20-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. Further, DOE appreciates the support it has received from the local communities surrounding the candidate sites for the proposed facilities. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

711 Pevero Abbey Circle
Martinez, GA 30907
E-Mail: RBTHWILCOC@aol.com
September 11, 1998

U. S. Department of Energy
Office of Fissile Materials Disposition
P. O. Box 23786
Washington, DC20026-3786

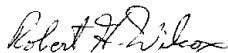
This is in reply to your request for comments on the "Surplus Plutonium Disposition Draft Environmental Impact Statement," dated July 1998.

I have reviewed this document and essentially have no comments, other than to rephrase and reiterate some which I provided before the document was prepared, in my letter to Mr. Bert Stevenson on July 6, 1997:

- 1. The EIS process, as currently practiced by DOE, remains unduly expensive and time consuming. In my opinion, it goes far beyond the intent of Congress when it enacted the original NEPA. | 1
- 2. DOE's decision in this matter should be driven primarily by considerations of national security. | 2
- 3. DOE and others should most carefully consider the extent to which it would be prudent to concentrate a high percentage of the nation's plutonium at any one site. | 3
- 4. The conversion of as much as possible of the unneeded plutonium into MOX fuel remains the logical and responsible course of action for the Government to take and the sooner the better. | 4
- 5. The SRS should be utilized to the maximum that it makes strategic and economic sense to do so. | 5

I urge DOE to get on with this important job as expeditiously as possible.

Sincerely,


Robert H. Wilcox

MD176

MD176-1

General SPD EIS and NEPA Process

DOE strives to control costs in implementing the NEPA process. This SPD EIS was prepared in accordance with the provisions of NEPA (42 U.S.C. 4321 et seq.) and related CEQ and DOE implementation regulations (40 CFR 1500 through 1508 and 10 CFR 1021, respectively).

MD176-2

DOE Policy

The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of the surplus plutonium in the United States in an environmentally safe and timely manner. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

MD176-3

DOE Policy

DOE acknowledges the commentor's concern that a high percentage of the nation's plutonium might be concentrated at any one site. As summarized in the *Storage and Disposition PEIS* ROD, the nonproliferation assessment concluded that each of the options under consideration for plutonium disposition could potentially provide high levels of security and safeguards and effective international monitoring for nuclear materials during the disposition process thus mitigating the risk of theft. Accordingly, the proposed DOE surplus plutonium disposition facilities are all at locations where plutonium would have the levels of protection and control required by applicable DOE safeguards and security directives. Safeguards and security programs would be integrated programs of physical protection, information security, nuclear material control and accountability, and personnel assurance. Security for the proposed facilities would be implemented commensurate with the usability of the material in a nuclear weapon or improvised nuclear device. Physical barriers; access control systems; detection and alarm systems; procedures, including the two-person rule (which requires at least two people to be present when working with special nuclear materials in the facility); and personnel security measures, including security clearance

investigations and access authorization levels, would be used to ensure that special nuclear materials stored and processed inside are adequately protected. Closed-circuit television, intrusion detection, motion detection, and other automated materials monitoring methods would also be employed. Furthermore, the physical protection, safeguards, and security for the MOX facility and domestic, commercial reactors would be in compliance with NRC regulations.

MD176-4 **MOX Approach**

DOE acknowledges the commentor's support for the MOX approach.

The remainder of this comment is addressed in response MD176-2.

MD176-5 **Alternatives**

DOE acknowledges the commentor's support for the surplus plutonium disposition program at SRS.

The remainder of this comment is addressed in response MD176-2.

TALKING POINTS FOR PUBLIC HEARING ON MOX DRAFT ENVIRONMENTAL
IMPACT STATEMENT—08/20/98

1. Disposing of plutonium no longer needed for nuclear weapons is vital to our national policy.

As the world leader, the U. S. must do this disposal rapidly and effectively.

The Russian must do the same. Such actions will send a clear message to India, Pakistan, and others that want the bomb. These nations will see that both Russia and the U. S. are serious about nuclear disarmament.

2. Using this plutonium in mixed oxide (MOX) fuel for nuclear power reactors makes it quite difficult to recover for use in nuclear bombs.

Most plutonium should be turned into MOX. Some plutonium is too impure for either bombs or MOX. Only such impure plutonium should be put into glass and buried directly.

3. We are unhappy that DOE has already chosen Savannah River as the preferred site for MOX production. DOE could have delayed the decision until the Record of Decision following the Final Environmental Impact Statement.

By then WIPP might be open. Waste from Rocky Flats—not of our making---would finally be moving out of Idaho after three decades of promises. Our political leaders could then show that the Settlement Agreement on Nuclear Wastes is working. They could then support new projects, such as MOX, in good faith.

4. Even though MOX will not come to Idaho, DOE must show without doubt that the impacts of MOX on the INEEL environment would be minor. In this EIS DOE must answer all concerns of those who give independent oversight (State of Idaho) and stakeholder advice (Citizens Advisory Board). Failure to do so will make it harder for the State and the public to accept the next nuclear project at INEEL.

5. From this EIS, DOE will pick the site that will make the prototype fuel (termed lead assemblies) and will examine it after nuclear testing. The private company chosen for the MOX project will help decide whether it needs this Research and Development step. We support Argonne-West for this work. It has better facilities and better technical talent than the other sites DOE is considering.

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IDD05

IDD05-1

Nonproliferation

DOE acknowledges the commentor's views on the need to disposition surplus plutonium in the United States and in Russia. The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. The disposition activities proposed in this SPD EIS would enhance U.S. credibility and flexibility in negotiations on bilateral and multilateral reductions of surplus weapons-usable fissile materials inventories. Actions undertaken by the United States would generally be coordinated with efforts to address surplus plutonium stockpiles in Russia. For example, the construction of new facilities for disposition of U.S. plutonium would likely depend on progress in Russia.

IDD05-2

Alternatives

DOE has identified as its preferred alternative the hybrid approach: to disposition up to 50 t (55 tons) of surplus plutonium that uses both ceramic can-in-canister immobilization and MOX fuel fabrication. Approximately 33 t (36 tons) of clean plutonium metal and oxides would be used to fabricate MOX fuel, which would be irradiated in domestic, commercial reactors. The remaining 17 t (19 tons) of impure plutonium would be sent to the immobilization facility, thus avoiding extensive characterization and purification of the materials. Both of these approaches would meet the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors.

IDD05-3

DOE Policy

DOE has prepared this SPD EIS in accordance with the provisions of NEPA (42 U.S.C. 4321 et seq.) and the related CEQ and DOE implementation regulations (40 CFR 1500 through 1508 and 10 CFR 1021, respectively). In accordance with CEQ Section 1502.14(e), DOE identified its preferred alternative in the SPD Draft EIS so the public could understand DOE's orientation and provide comment. Decisions on the surplus plutonium disposition program at INEEL will be based on public input, environmental

analyses, technical and cost reports, and national policy and nonproliferation considerations. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

IDD05-4 General SPD EIS and NEPA Process

The analyses in Sections 4.14 and 4.26.2 indicate that impacts of constructing and operating the MOX facility at INEEL on public health and the environment would likely be minor. This Comment Response Document contains the comments of interested stakeholders and DOE's responses to those comments.

IDD05-5 Lead Assemblies

DOE acknowledges the commentor's support for siting lead assembly and postirradiation examination activities at ANL-W. As discussed in Section 2.17, ANL-W was considered as one of several candidate sites because it would require only minimal alteration of interior spaces, is authorized to handle plutonium, and has existing facilities that meet the standards for processing special nuclear material.

As discussed in the revised Section 1.6, based on consideration of capabilities of the candidate sites and input from DCS on the MOX approach, DOE prefers LANL for lead assembly fabrication. LANL is preferred because it already has fuel fabrication facilities that would not require major modifications, and takes advantage of existing infrastructure and staff expertise. Additionally, the surplus plutonium dioxide that would be used to fabricate the lead assemblies would already be in inventory at the site. Decisions on lead assembly fabrication will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

IF NOT NOW...

140 ARBORWAY, STE. 6, BOSTON, MA 02130-3522 USA
(617) 524-1347 • fax (617) 524-1347 • contact@ifnotnow.com

To: DOE, Fax 18008205156
From: If Not Now: A Citizens Lobbying Tool, EMail rep-info@ifnotnow.com
Date: Sep 10, 1998 13:44 GMT
Subject: Plutonium Disposal By Burning In Nuclear Reactors

If Not Now is a web-based citizen's lobbying tool. We are forwarding to you a letter from some of your constituents. At the end of this message there is a description of how our service works and how you can respond to your constituents.

Signatures as of Sep 10, 1998:
There were 2 new signers. Total signers to date: 2.

TOPIC: Plutonium Disposal By Burning In Nuclear Reactors

Dear DOE (Fissile Materials Program),

I am writing to oppose the current Department of Energy plan for plutonium disposition, which is based on mixed-oxide (MOX) fuel. MOX fuel is a bad idea. It is unproven technology as far as commercial reactors in the U.S. are concerned. MOX techniques for plutonium disposal are also slower and more expensive than immobilization techniques. In addition, the treatment of plutonium as an energy source sets a dangerous precedent for nuclear proliferation and the development of plutonium fuel economies. It is essential that the DOE do everything possible to discourage this proliferation.

New signers and comments:

Scott Bonner, Boise, ID 83702
Amy Hobbs, Springfield, MO 65806

DESCRIPTION OF IF NOT NOW SERVICE

Subscribers use If Not Now (www.ifnotnow.com) to get information about political and social issues of concern to them. The service also enables them to sign letters about these topics, which we then forward in consolidated form to officials such as yourself. It is important to emphasize that our subscriber list is authenticated through credit card verification, and only those signers who belong to your specific constituency are included in the signature list that you receive.

FD300

FD300-1

MOX Approach

DOE acknowledges the commentor's opposition to the MOX approach to surplus plutonium disposition. While it is true MOX fuel has not been produced commercially in the U.S., it has been produced in Western Europe. MOX fuel fabrication is not a new technology. This experience would be used for disposition of the U.S. surplus plutonium. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

Any difference between the cost of the hybrid approach and that of the immobilization-only approach would be marginal. Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.



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An important feature of If Not Now is that we follow up on every action letter that we send, and we report how representatives, officials and others have acted on the issue. We also provide you with the opportunity to respond to your constituents (via a password-protected web server, to ensure that only legitimate responses are posted). Follow the directions below. Your letter will be posted without editing; your constituents will be able to view your response when they check the results of that action. (We regret that we cannot process responses received via fax or US mail.) We strongly encourage you to send us a response! Our subscribers are active, involved citizens who want to hear from you.

To respond to an action letter, fill out the form at <http://www.ifnotnow.com/respond.html> -- you will need to use your special key: **PeetJlwV**. This key is valid for one-time use only. Please send questions or comments via email to: rep-info@ifnotnow.com.

FD300

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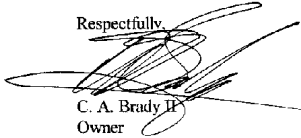
August 17, 1998

We must find a way to dispose of the plutonium no longer needed for nuclear weapons. The U.S. must take a leadership position in accomplishing this goal. The best use for this plutonium is to use it in mixed oxide fuel (MOX) for nuclear power reactors. This would also make it more difficult to recover for use in nuclear bombs.

Even though the decision to place this project in Savannah River has virtually been made and the I.N.E.E.L. was not given a fair opportunity because of political reasons to bid effectively for the MOX programs, I support the MOX project. If the waste from Rocky Flats was moving out of Idaho as promised over the last thirty years, our political leaders here in Idaho could support new projects such as MOX.

Though MOX won't be coming to Idaho, DOE must still show that MOX would have little environmental impact in Idaho, otherwise the next nuclear project would run into problems being placed at the I.N.E.E.L. The DOE, I hope, will pick Argonne-West to make the prototype fuel. Argonne-West has the best facilities and talent to do this job.

Respectfully,



C. A. Brady II
Owner

sds/plutonium.wps

1

IDD03

IDD03-1

Alternatives

DOE acknowledges the commentor's support for the MOX approach and for siting lead assembly fabrication at INEEL. However, DOE has identified as its preferred alternative the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.



Citizens Advisory Board

Idaho National Engineering and Environmental Laboratory

98-CAB-206

September 16, 1998

U.S. Department of Energy
Office of Fissile Materials Disposition
P.O. Box 23786
Washington, D.C. 20026-3786

Dear Sirs:

Enclosed you will find a copy of a recommendation developed by the Idaho National Engineering and Environmental Laboratory Citizens Advisory Board (INEEL CAB). The recommendation was achieved through consensus at the September 1998 meeting of the CAB. It transmits the Board's comments and recommendations to the U.S. Department of Energy on the Draft Environmental Impact Statement (EIS) for Surplus Plutonium Disposition.

It is our intention that our comments and recommendations will help DOE produce a Final EIS that is sufficiently improved to withstand legal challenge and to support the Secretary of Energy's selection of the most appropriate path forward for this important mission of nonproliferation.

We look forward to DOE's response to all of the comments received on the Draft EIS during this comment period. In addition, we would like to receive a copy of the Final EIS along with all supporting documentation (including the *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* document).

Sincerely,

Charles M. Rice
Chair

- cc: James Owendoff, DOE-HQ
- Martha Crossland, DOE-HQ (EM-22)
- Larry Craig, U.S. Senate
- Dirk Kempthorne, U.S. Senate
- Mike Crapo, U.S. House of Representatives
- David Holt, Chair, Idaho Senate Resources and Environment Committee
- Gordon H. Smith, Chair, Idaho House of Representatives Resources and Conservation Committee
- Dolores Crow, Chair, Idaho House of Representatives Environmental Affairs Committee
- Stan Hobson, Chair, INEEL CAB Plutonium Committee
- John Wileyanski, DOE-ID
- Gerald Bowman, DOE-ID
- Kathleen Trever, State of Idaho INEEL Oversight
- Wayne Pierre, U.S. Environmental Protection Agency, Region X

FD318

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Citizens Advisory Board
Idaho National Engineering and Environmental Laboratory

Surplus Plutonium Disposition Draft Environmental Impact Statement

The Idaho National Engineering and Environmental Laboratory (INEEL) Citizens Advisory Board (CAB) reviewed the U.S. Department of Energy (DOE)'s Surplus Plutonium Disposition Draft Environmental Impact Statement (EIS), although it was difficult to obtain copies to support our review. We regret that the INEEL CAB was not on the distribution list for the document—despite the fact that we submitted a recommendation addressing the ongoing EIS in the fall of 1997. Our request for copies of the Draft EIS (sent via the DOE's National Environmental Policy Act Internet homepage) similarly did not affect a response.

1

We submit the following recommendations and comments to support DOE's efforts to develop legally defensible environmental documentation for decision making related to the nonproliferation mission. We recommend that the Department respond to all comments on the Draft EIS received during this comment period in order to ensure that the Final EIS will be able to support a decision by the Secretary of Energy on this important mission.

GENERAL COMMENTS

The INEEL CAB notes that Chapter One of the Surplus Plutonium Disposition Draft EIS includes the following quotation:

"The Record of Decision for the *Storage and Disposition Programmatic Environmental Impact Statement* (PEIS) issued January 14, 1997 outlines DOE's decision to pursue an approach to plutonium disposition that would make surplus weapons-usable plutonium inaccessible and unattractive for weapons use. DOE's disposition strategy, consistent with the preferred alternative analyzed in the *Storage and Disposition* PEIS, allows for both the immobilization of some (and potentially all) of the surplus plutonium and use of some of the surplus plutonium as mixed oxide (MOX) fuel in existing domestic, commercial reactors."

2

The statement suggests that DOE believes that both approaches would render surplus plutonium (weapons-usable plutonium that has been deemed surplus) inaccessible and unattractive for weapons use, thereby achieving DOE's objectives.

Our analysis of the information presented in the Draft EIS leads us to a conclusion that DOE conducted a less-than-rigorous analysis of the full immobilization alternatives. We note that DOE conducted more extensive analysis for all of the hybrid alternatives (those that would involve implementation of both approaches). This leaves the reader with an impression that DOE decided to pursue the MOX disposition option without the benefit of adequate analysis.

FD318-1

General SPD EIS and NEPA Process

DOE regrets the difficulties encountered by the INEEL CAB in obtaining copies of the SPD Draft EIS. Copies of the document or an NOA letter were sent to each member of the Board at that person's address on record. This approach was adopted in favor of a bulk mailing directly to the Board's address, which would probably have delayed the receipt of copies by the individual members. (Presumably, someone would have had to forward the documents by mail or wait until the next Board meeting to distribute them.) The public comment period on the SPD Draft EIS was extended from 45 days to 60 days. During this comment period, public hearings were held in areas that would be directly affected by implementation of the alternatives. DOE also accepted comments submitted by various other means: mail, a toll-free telephone and fax line, and the MD Web site. The various channels of communication were open to all interested individuals and organizations, and provided for regional and nationwide comment on the EIS. DOE did consider all comments received after the close of that period. All comments were given equal consideration and responded to.

FD318-2

Alternatives

DOE has prepared this SPD EIS in accordance with the provisions of NEPA (42 U.S.C. 4321 et seq.) and the related CEQ and DOE implementation regulations (40 CFR 1500 through 1508 and 10 CFR 1021, respectively). The primary objective of the EIS is a comprehensive description of proposed surplus plutonium disposition actions and alternatives and their potential environmental impacts. DOE has analyzed each environmental resource area in a consistent manner across all the alternatives to allow for a fair comparison among the alternatives and among the candidate sites for the proposed surplus plutonium disposition facilities. As discussed in Section 2.1, the disposition facility alternatives, immobilization technology alternatives, and MOX fuel fabrication alternatives evaluated are consistent with the decisions given in the ROD for the *Storage and Disposition PEIS*. Impacts for both technologies and all alternatives are summarized in Chapter 4 of Volume I, and complete analyses are provided in the appendixes. Alternatives 11 and 12, the 50-t (55-tons) immobilization cases, are fully analyzed.

DOE has identified as its preferred alternative the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again. Because the Russians have expressed concern that immobilization would not destroy any plutonium, it is conceivable that the Russians would not disposition their surplus plutonium stockpile if the United States were to implement an immobilization-only approach.

Similarly, the INEEL CAB notes that the description of the alternatives is unclear regarding how immobilization would achieve the standards set the National Academy of Sciences. It has not been demonstrated, for example, that high-level waste can be used in the can and canister immobilization method to achieve a radiation barrier. **The INEEL CAB recommends that the total immobilization options be given full consideration and rigorous discussion in this EIS.** Such an analysis will make the Final EIS less vulnerable to legal challenge and allow the Secretary of Energy greater leeway in selecting the most appropriate path forward for the disposition of surplus plutonium.

The members of the INEEL CAB are divided on whether national and/or international interests would be better served by selection of the total immobilization or the hybrid approach, partly because we lack confidence in the adequacy of the analysis. Improved analysis may reveal that the hybrid approaches will result in greater impacts on the environment, human health, and security. The hybrid alternative could also take a much longer period of time, require more transportation of radioactive materials, and produce greater quantities of wastes. We note that some of the alternatives propose using a 1954 facility for plutonium conversion and immobilization, which could involve permitting challenges that are not adequately addressed in the EIS.

Because our review of the Draft EIS left us without answers to questions about the true impacts of the various alternatives, we concluded that the Draft EIS does not allow comparison of the two approaches, much less comparison of the full range of alternatives. **The INEEL CAB recommends that the Final EIS resolve these major issues by conducting additional analysis.**

The Draft EIS and presentations by DOE related to the document imply that the international community will not be satisfied with U.S. nonproliferation efforts in the absence of MOX. In light of the fluid political situation in Russia, **the INEEL CAB recommends that the assumptions (that the U.S. has no choice but to pursue the MOX alternative in order to ensure that Russia will take reciprocal action) should be periodically confirmed.** The INEEL CAB further recommends that implementation of U.S. actions, regardless of which alternative is selected, should proceed concurrently with implementation of comparable actions in Russia.

While the entire INEEL CAB wholeheartedly supports DOE's efforts to achieve nonproliferation objectives and would not argue in favor of a decision that would jeopardize Russian cooperation, the INEEL CAB recommends that DOE base its decisions on complete information and sound analysis. In the spirit of the National Environmental Policy Act, this EIS must document the decision in a publicly defensible manner.

**COMMENTS ON THE COST ANALYSIS IN SUPPORT OF SITE SELECTION
FOR SURPLUS WEAPONS-USABLE PLUTONIUM DISPOSITION DOCUMENT**

The INEEL CAB regrets that the cost analysis of the various alternatives presented in the Draft EIS was provided in a separate document that was relatively unavailable. The absence of cost information in the Draft EIS itself leaves the reader to a conclusion that either (1) the costs of implementing the alternatives do not differ or (2) DOE will not consider costs in selecting from the various alternatives. Neither conclusion seems realistic or appropriate. **The INEEL CAB recommends the inclusion of more information about costs in the body of the Final EIS.**

FD318-3

DOE Policy

In the *Nonproliferation and Arms Control Assessment Weapons-Usable Fissile Material Storage and Excess Plutonium Disposition Alternatives* (DOE/NN-0007, January 1997), DOE identified two potential liabilities of the immobilization alternatives relative to the Spent Fuel Standard. These liabilities involve ensuring sufficient radiation levels and removal-resistant can-in-canister designs. Since that time, DOE has modified the can support structure inside the canisters and has focused its research on the ceramic form of immobilization. As part of the form evaluation process, an independent panel of experts determined (*Letter Report of the Immobilization Technology Peer Review Panel*, from Matthew Bunn to Stephen Cochran, LLNL, August 21, 1997) that the can-in-canister design would meet the Spent Fuel Standard. In addition, NAS is currently conducting studies to confirm the ability of the ceramic can-in-canister immobilization approach to meet the Spent Fuel Standard. DOE is confident that immobilization remains a viable alternative for meeting the nonproliferation goals of the surplus plutonium disposition program.

FD318-4

Alternatives

This SPD EIS identifies and analyzes potential environmental and human health impacts that might result from the construction and normal operation of proposed surplus plutonium disposition facilities. The hybrid approach would produce some additional potential impacts, as described in Chapter 4 of Volume I.

DOE acknowledges the commentor's concern about the preferred approach of using both immobilization and MOX fuel fabrication to disposition surplus plutonium.

DOE eliminated as unreasonable the eight alternatives in the SPD Draft EIS that would involve use of portions of Building 221-F (the 1954 building referred to in the comment) for plutonium conversion and immobilization. It was determined that the amount of space required for the immobilization facility would be significantly larger than originally planned. These new space requirements mean that the Building 221-F alternatives would now be very close in size and environmental impacts to the new immobilization facility

alternatives at SRS. Therefore, this SPD EIS only presents the alternatives involving a completely new immobilization facility at SRS.

FD318-5**Nonproliferation**

DOE agrees with the commentor's recommendation and has maintained a close working relationship with Russia to develop technical solutions for plutonium disposition. The United States and Russia recently made progress in the management and disposition of plutonium. In late July 1998, Vice President Gore and Russian Prime Minister Sergei Kiriyenko signed a 5-year agreement to provide the scientific and technical basis for decisions concerning how surplus plutonium will be managed. This agreement enables the two countries to explore mutually acceptable strategies for safeguarding and dispositioning surplus plutonium. During the first week of September 1998, Presidents Clinton and Yeltsin held a Moscow summit and signed a statement of principles with the intention of removing approximately 50 t (55 tons) of plutonium from each country's stockpile. Sensitive negotiations between the two countries have indicated that the Russian government accepts the technology of immobilization for low-concentration, plutonium-bearing materials, but that the MOX approach would be considered for higher-purity feed materials. The United States does not currently plan to implement a unilateral program; however, it will retain the option to begin certain surplus plutonium disposition activities in order to encourage the Russians and set an international example.

FD318-6**Cost**

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following

locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

CITIZENS ADVISORY BOARD, INEEL
CHARLES M. RICE
PAGE 7 OF 11

Review of the cost analysis document allows an improved understanding of the costs associated with implementation of the surplus plutonium disposition decision. The INEEL CAB believes the cost analysis is based on a questionable methodology, as it appears that the costs were not fully evaluated. We question why the estimates of total costs do not appear to include certain categories of costs (nuclear reactor modifications and irradiation services, for example) based on an assumption that they will apply uniformly across all alternatives. It is hard to believe that nuclear reactor modifications will be required under the full immobilization alternatives, however. Calculation of fuel offsets and inclusion of those offsets in the estimates of total costs is questionable and the definition of those offsets is not clear, which further complicates the reader's ability to understand the analysis of costs for the various alternatives.

Similarly, we have concerns about the adequacy of cost estimates for immobilization as they are based on less thorough process design and experience than the MOX option. We also noted that they do not include cost estimates for several undetermined aspects of the plutonium ceramic fabrication process. Potentially significant costs that would be required to ensure that the glass product can meet the National Academy of Sciences "spent fuel standard" for making weapons plutonium "sufficiently unattractive to proliferation." Finally, recent developments at the Savannah River Site indicate that it could be significantly more expensive to meet nonproliferation standards using the immobilization approach than with one of the hybrid approaches.

The INEEL CAB recommends that the cost analysis include calculation of all expected costs associated with each of the alternatives—including appropriate offsets (those that result in real reductions in the costs to the U.S. government). The INEEL CAB further recommends an independent review of the cost estimates by competent cost analysts following the suggested recalculation. Improved cost estimates are imperative to support selection of the most appropriate alternative for inclusion in the Record of Decision following completion of the Final EIS.

**COMMENTS REGARDING THE SITING OF THE LEAD TEST ASSEMBLY
 FABRICATION AND POST-IRRADIATION EXAMINATION PHASES**

If DOE decides to pursue a hybrid approach, review of the analysis of the candidate sites for the lead test assembly phase reveals that Argonne National Laboratory - West (ANL-W) is well qualified. We noted that ANL-W was the only site that did not fall short in at least one of the site selection criteria considered.

With regard to the post-irradiation examination of the lead test assemblies, the INEEL CAB believes that ANL-W is uniquely qualified for conducting the needed examinations. The Hot Fuel Examination Facility has successfully completed similar missions and has appropriate facilities to handle all aspects of the work.

The INEEL CAB recognizes that fabrication of lead test assemblies will involve transportation of plutonium to the INEEL and fabricated fuel rods to the commercial power plant where irradiation will occur. In addition, we recognize that the post-irradiation evaluation phase will involve shipment of irradiated fuel rods to and from the site. The shipments to and from ANL-W, if the facility is selected to conduct either phase, will likely cross the Fort Hall Indian Reservation.

RECOMMENDATION # 46

SEPTEMBER 15, 1998

FD318

FD318-7

Cost Report

Because this comment relates directly to the cost analysis report, it has been forwarded to the cost analysis team for consideration. The *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, is available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

FD318-8

Lead Assemblies

DOE acknowledges the commentor's support for siting lead assembly and postirradiation examination activities at ANL-W. As discussed in Section 2.17, ANL-W was considered as one of several candidate sites because it would require only minimal alteration of interior spaces, is authorized to handle plutonium, and has existing facilities that meet the standards for processing special nuclear material.

As discussed in the revised Section 1.6, based on consideration of capabilities of the candidate sites and input from DCS on the MOX approach, DOE prefers LANL for lead assembly fabrication. LANL is preferred because it already has fuel fabrication facilities that would not require major modifications, and takes advantage of existing infrastructure and staff expertise. Additionally, the surplus plutonium dioxide that would be used to fabricate the lead assemblies would already be in inventory at the site. DOE prefers ORNL for postirradiation examination activities. ORNL has the existing facilities and staff expertise needed to perform postirradiation examination as a matter of its routine activities; no major modifications to facilities or processing capabilities would be required. In addition, ORNL is about 500 km (300 mi) from the reactor site that would irradiate the fuel. Decisions on lead assembly fabrication and postirradiation examination will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

FD318-9

DOE Policy

It is DOE's policy that plutonium shipments comply with DOT and NRC regulatory requirements. The highway routing for commercial shipments of nuclear material is systematically determined using primarily interstate highways and shipments in accordance with appropriate DOT regulations at 49 CFR 171 through 179 and 49 CFR 397. The dates and times that specific transportation routes would be used for special nuclear materials are classified information; however, the number of shipments that would be required, by location, has been included in this SPD EIS.

It is possible that shipments to INEEL or ANL-W could cross the Fort Hall Reservation. The Fort Hall Reservation was contacted by DOE to discuss this issue during October 1998 and in March 1999 but no response has been received to date.

CITIZENS ADVISORY BOARD, INEEL
CHARLES M. RICE
PAGE 9 OF 11

The INEEL CAB recommends that DOE-ID develop an agreement with the Shoshone-Bannock Tribes to allow and appropriately manage the transport of plutonium and other radioactive materials across the reservation. We further recommend that such an agreement be achieved before decisions are made on the siting of the lead test assembly fabrication and the post-irradiation evaluation phases. 10

With regard to the potential siting of both the lead test assembly and the post-irradiation examination phases at ANL-W, the INEEL CAB makes the following recommendations to help ensure that neither will jeopardize compliance with the Idaho Settlement Agreement: 11

1. The INEEL CAB understands that the plutonium involved in both of the phases can meet residence limitations imposed by the Settlement Agreement. We recommend that DOE confirm that interpretation with Governor Batt's office. 12

2. The INEEL CAB recommends that the timing and quantities of plutonium shipments to and from ANL-W for the lead test assembly fabrication and the post-irradiation examination phases should be clearly defined in the final EIS. 13

3. The Board recommends that disposition plans should be in place for all waste streams from all activities before the Record of Decision is signed to ensure that the decision will be consistent with the Idaho Settlement Agreement. The Draft EIS reports that the fabrication of lead test assemblies would produce 132 cubic meters of transuranic waste, 736 cubic meters of low-level waste, and 4 cubic meters of mixed low-level waste. No estimates of waste streams produced were included for the post-irradiation examination mission; the final EIS should specify that information. In addition, the INEEL CAB recommends that DOE provide a clear exit path and timetable for all waste streams, as well as residual plutonium, before it enters Idaho if ANL-W is selected for either phase. 14

4. With regard to the disposal of the lead test assemblies after the post-irradiation examination has been completed, how will the irradiated and archived fuel rods be managed and disposed? Will the INEEL be expected to store the rods until Yucca Mountain opens? What will happen if Yucca Mountain doesn't open? The Board recommends that the Final EIS answer these questions.

FD318-10**Transportation**

After DOE selects an alternative, a transportation plan (in which State, tribal, and local officials in addition to DOE, the carrier, and other Federal agencies would be involved) would be prepared to address the details of implementing the actions analyzed in this SPD EIS, including prenotification of States. The shipment of nuclear material (e.g., depleted uranium) using commercial carriers would be the subject of detailed transportation plans in which routes and specific processing locations would be discussed. These plans are coordinated with State, tribal, and local officials. The shipment of waste would be in accordance with the decisions reached on the *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste (WM PEIS)* (DOE/EIS-0200-F, May 1997) and the *WIPP Disposal Phase Final Supplemental EIS* (DOE/EIS-0026-S-2, September 1997). The transportation of special nuclear materials is the subject of detailed planning with DOE's Transportation Safeguards Division. The dates and times that specific transportation routes would be used for special nuclear materials are classified information; however, the number of shipments that would be required, by location, has been included in this SPD EIS. Additional details are provided in *Fissile Materials Disposition Program SST/SGT Transportation Estimation* (SAND98-8244, June 1998), which is available on the MD Web site at <http://www.doe-md.com>. Until the decision to use INEEL for any of the surplus plutonium disposition activities is made, it is premature to develop an agreement with the Shoshone-Bannock Tribes.

FD318-11**DOE Policy**

Should the SPD EIS ROD identify ANL-W as the lead assembly fabrication or postirradiation examination site, DOE would consider taking this recommended action. Until then, it is premature to contact the Governor's office, in this regard, although the State of Idaho was provided with the SPD Draft EIS for review and comment. As discussed in Section 2.4.4.4, any postirradiation examination activities and associated material shipments would comply with the Consent Order and Settlement Agreement in *Public Service Company of Colorado v. Batt* (if the work were

performed at ANL–W), and all other applicable agreements and DOE orders, including provisions concerning removal of material from the applicable examination site.

FD318–12

Lead Assemblies

As described in the revised Section 1.6, DOE prefers LANL and ORNL for lead assembly fabrication and postirradiation examination activities, respectively. Therefore, if the preferred alternatives were selected in the decision, shipments to ANL–W would not be made. Table E–25 indicates planned lead assembly operation from 2003 to 2006. The dates and times that specific transportation routes would be used for special nuclear materials are classified information; however, the number of shipments that would be required, by location, has been included in this SPD EIS. Plutonium is routinely and safely transported in the United States every day. All shipments of surplus plutonium other than MOX spent fuel and immobilized plutonium would be made by the DOE SST/SGT system. The transportation analysis results are presented for each alternative in Chapter 4 of Volume I and detailed in Appendix L. As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures or vehicle emissions are expected.

FD318–13

Waste Management

If ANL–W were selected, the wastes generated by lead assembly fabrication and postirradiation examination would be managed in accordance with the Batt Agreement, the FFCA Agreement, and decisions made in RODs for the WM PEIS and the *WIPP Disposal Phase Final Supplemental EIS*. As described in Section 4.27.1.2 and Appendix H, wastes generated by lead assembly fabrication could be managed using existing and planned waste management facilities with little impact to these facilities. Section 4.27.6.2 was revised to discuss wastes from postirradiation examination at ANL–W should that site be chosen to provide those services in the SPD EIS ROD.

FD318-14**Waste Management**

DOE acknowledges the commentor's concerns regarding spent nuclear fuel management at INEEL. As described in the supporting report, *ANL-WMOX Fuel Lead Assemblies Data Report for the Surplus Plutonium Disposition Environmental Impact Statement* (ORNL/TM-13478, August 1998), unirradiated archived lead assemblies would be managed at the lead assembly facility until lead assembly and postirradiation activities were completed, after which the archives would be shipped to the MOX facility. The bulk of the irradiated lead assembly fuel rods would be stored in the spent fuel pool at McGuire, the reactor where the lead assemblies would be irradiated. Of the rods actually shipped to the postirradiation examination site, one of which is INEEL, some of the wastes from postirradiation examination activities would be considered TRU waste; remaining intact rods and pellets would be managed as spent nuclear fuel. Spent nuclear fuel left over after postirradiation examination would be stored at INEEL until disposed of in a potential geologic repository. This is consistent with the ROD for the *DOE Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs Final EIS* (DOE/EIS-0203-F, April 1995). The spent nuclear fuel generated by this activity would be a very small fraction of the approximately 1,186,800 kg (2,616,419 lb) of spent nuclear fuel currently stored at ANL-W and INEEL. The small amount of spent fuel generated by postirradiation examination would not drive future decisions on spent nuclear fuel management at INEEL or the potential geologic repository.

The remainder of this comment is addressed in response FD318-11.

COMMENTS ON SURPLUS PLUTONIUM DISPOSITION DEIS August 20, 1998

DOE is to be congratulated on their efforts to incorporate in this DEIS suggestions and answers to various issues raised during earlier public comment periods for the Scoping and Storage & Disposition EIS.

There are, however, some salient points that need to be made or emphasized at this time:

1. World peace is extremely questionable with the current potential for proliferation of nuclear weapon materials. Thus, disposition of surplus plutonium by both the U.S. and Russia is of immediate importance.
2. Russia intends to utilize their surplus as MOX (Mixed Oxide) nuclear fuel for power production. The U.S. should likewise be using their pure plutonium for energy production with MOX fuel elements. There is ample information available on MOX from the 1970's to the present. After use in nuclear reactors, it would be thus be rendered equivalent to other Spent Nuclear Fuels. Only the plutonium too impure for either weapon or MOX fuel should be immobilized for burial.
3. It was unfortunate that INEEL was not selected for a new peaceful mission to convert nuclear weapon materials to peaceful energy purposes. The Idaho Falls Scoping meeting was the first and only hearing that was of a technically objective format instead of the 'we want it for jobs and economics' hearings. We are unhappy that DOE has already selected Savannah River as the preferred site for MOX production, rather than awaiting the Record of Decision following the Final Environmental Impact Statement. WIPP might then be open to receive Rocky Flats waste now stored at INEEL. This would then show that the 'Settlement Agreement on Nuclear Wastes' is working so that our political leaders and the public could support new projects at INEEL.
4. DOE's choice of Savannah River as the preferred site for MOX production was not based on any environmental issues at INEEL. The DEIS states (under Cumulative Impacts): "INEEL is currently in compliance with all Federal, State and local air quality regulations and guidelines, and would continue to remain in compliance even with consideration of the cumulative effects of all activities. The surplus plutonium disposition facilities contribution to overall site concentration is extremely small." In this EIS, DOE must answer all concerns of independent oversight advisers (State of Idaho) and stakeholders (Citizens Advisory Board) to assure acceptability of any future nuclear projects.
5. DOE's preference for siting plutonium disposition states: "DOE prefers that INEEL should focus on cleanup and nuclear technology". One example of 'nuclear technology' would be for DOE to choose Argonne-West as the site to make the lead assemblies and do post-irradiation examination if required for NRC licensing of MOX. Based on their superior equipment and expertise, we support Argonne-West for this work. We are encouraged that some of our nation's leaders are now recognizing the need for future additional environmentally-clean nuclear power, and feel sure that INEEL should and will play an important part.

Lowell A. Jobe
Lowell A. Jobe
Coalition 21

IDD04

IDD04-1

Nonproliferation

DOE agrees with the commentator's view that surplus plutonium disposition by both the United States and Russia is of immediate importance to world peace and appreciates the support for the hybrid approach. The SPD EIS analyses include those materials suitable for immobilization and those suitable for MOX fuel fabrication. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself.

IDD04-2

DOE Policy

DOE has prepared this SPD EIS in accordance with the provisions of NEPA (42 U.S.C. 4321 et seq.) and the related CEQ and DOE implementation regulations (40 CFR 1500 through 1508 and 10 CFR 1021, respectively). In accordance with 40 CFR 1502.14(e), the agency shall identify its preferred alternative, if one or more exists, in the draft EIS and identify such alternative in the final EIS. DOE identified the preferred alternative, as required, so the public could understand DOE's orientation and provide comment. Decisions on the surplus plutonium disposition program at INEEL will be based on public input, environmental analyses, technical and cost reports, and national policy and nonproliferation considerations. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

IDD04-3

General SPD EIS and NEPA Process

Section 2.18 provides a summary of the potential environmental impacts from each alternative. The Comment Response Document provides responses to the comments on the SPD Draft EIS received from independent oversight organizations and the public.

IDD04-4

Lead Assemblies

DOE acknowledges the commentator's support for siting lead assembly and postirradiation examination activities at ANL-W. As discussed in Section 2.17, ANL-W was considered as one of several candidate sites because it would require only minimal alteration of interior spaces, is authorized to handle plutonium, and has existing facilities that meet the standards for processing special nuclear material.

As discussed in the revised Section 1.6, based on consideration of capabilities of the candidate sites and input from DCS on the MOX approach, DOE prefers LANL for lead assembly fabrication. LANL is preferred because it already has fuel fabrication facilities that would not require major modifications, and takes advantage of existing infrastructure and staff expertise. Additionally, the surplus plutonium dioxide that would be used to fabricate the lead assemblies would already be in inventory at the site. DOE prefers ORNL for postirradiation examination activities. ORNL has the existing facilities and staff expertise needed to perform postirradiation examination as a matter of its routine activities; no major modifications to facilities or processing capabilities would be required. In addition, ORNL is about 500 km (300 mi) from the reactor site that would irradiate the fuel. Decisions on lead assembly fabrication and postirradiation examination will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

This is Lowell Jobe of Coalition 21. Our phone number is (208) 528-2161. We also have a fax 528-2199. I am asking whether there is going to be an extension on the comment period for this Plutonium Disposition DEIS. We are really tied up with many DOE related meetings here this week and it's going to be difficult to get a real meaningful comment to you. So, I noticed that there was an extension given on the advanced mixed waste treatment plan according to last Saturday's paper. And I'm hoping this will be also an extension on this. I know that the Citizen's Advisory Board is meeting today, Monday the 14th and tomorrow and this plutonium disposition is also on their agenda and I intend to be at their meeting.

1

PD046

PD046-1

General SPD EIS and NEPA Process

A period of 60 days was allowed for public comment on the SPD Draft EIS, and DOE accepted comments submitted by various means: public hearings, mail, a toll-free telephone and fax line, and the MD Web site. Although it did not extend the comment period, DOE did consider all comments received after the close of that period. All comments were given equal consideration and responded to.

COALITION 21
RICHARD KENNEY
PAGE 1 OF 9



Supporting Tomorrow's Technologies With Facts + Not Fears!
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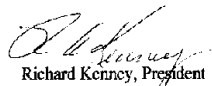
September 16, 1998

U. S. Department of Energy
Office of Fissile Materials Disposition
P. O. Box 23786
Washington D. C.

Subject: Additional Comments on Surplus Plutonium Disposition DEIS

The following comments supplement those submitted by Coalition 21 on September 15.

- 1. Coalition 21 has just completed the attached summary on the risks of plutonium. We request that it be included in the public comment record for this EIS. We ask that DOE address the accuracy of each paragraph in the summary. 1
- 2. We also wish DOE to consider applicable parts of this summary as the framework of its own summary on plutonium risks to be included in the final EIS. Much misinformation about plutonium resides with the general public. DOE should use this EIS and every other appropriate opportunity to put the risks of plutonium into proper perspective for its stakeholders. 2
- 3. We have also submitted the plutonium risk summary for the public comment record for the EIS on the Advanced Mixed Waste Treatment Project. This DEIS is out for public comment by the Idaho Office of DOE. Please ensure that DOE's responses to the summary are consistent between the two EIS's. 3


Richard Kenney, President

Attachment (4 pages)

MD240-1

Human Health Risk

DOE acknowledges the views expressed in the commentor's summary which is included in the public record as part of the SPD EIS. The comments on the SPD Draft EIS have been reviewed and acknowledged by DOE as shown in the following responses. The scope of this comment response process, however, focuses on the issues and alternatives related to this SPD EIS.

MD240-2

Human Health Risk

DOE acknowledges that there is misinformation about plutonium among the public. It has established reading rooms near DOE sites to provide easy access to information about DOE programs and encourages the use of this source of information. DOE has numerous Web sites, including the MD Web site at <http://www.doe-md.com>, that also provide up-to-date information about DOE programs.

MD240-3

General SPD EIS and NEPA Process

This comment is addressed in response MD240-1.

THE RISKS OF PLUTONIUM

September 1998

Most of us recognize carbon dioxide as vital to our environment to make plants thrive. People who follow the global warming debate know that too much carbon dioxide might add to the risks of global warming. Until July 1998, few people in Eastern Idaho were aware that a single lungful of this very common gas in our atmosphere could result in death. Yet that's what happened to an employee at INEEL. Thus risks from even extremely common materials are not obvious.

Plutonium is a man-made material whose origin is linked to nuclear bombs. Like many man-made materials, including most chemicals, it can be both beneficial and potentially harmful. It has raised genuine concerns in the general public. Coalition 21 believes that some groups are opposed to nuclear benefits in any form. We recognize that some such groups deliberately fuel the genuine concerns with a campaign of misinformation.

The challenge in that climate is to describe plutonium risks in two two-sided sheets of valid and interesting information. (We concluded at once that one sheet is not enough). We must make this information factual and subject to a minimum of debate. We'll meet this challenge by addressing the most common concerns, allegations, and claims.

Allegation: Plutonium is the most dangerous material known to man. That statement originated during World War II. Then plutonium was being made for the atomic bomb dropped on Nagasaki. Those responsible for plutonium worker safety wanted to make sure that this new material was not handled carelessly. Since then this now publicly disproved statement has derived its only authority from constant repetition. Experts in industrial hygiene do not support it.

A number of chemical and biological agents, such as nerve gases and botulism, are fatal to man in much smaller quantities. Even common materials such as caffeine, carbon dioxide, cyanides, lead and arsenic are, at times, more hazardous poisons.

The risk of plutonium differs from that of these other materials. Its chemical toxicity is inconsequential. Its primary hazard comes from its radioactivity if it is somehow taken into one's body. Our skin helps to protect us from this radioactivity. The danger arises from a radiation dose delivered to various organs inside the body. In general, plutonium that is inhaled is far more hazardous than plutonium that is swallowed. It is more readily absorbed into the blood stream via the lungs than via the G. I. tract. (For readers needing numbers, see the end of this fact sheet). Nevertheless, nobody is known to have died from a disease that indisputably developed from contamination with plutonium.

Concern: Plutonium is poisoning the Snake River Plain Aquifer. Or "plutonium is conceivably a health risk to those drawing water from the aquifer beyond the INEEL."

Between 1954 and 1970 waste shipped in from the nuclear weapons plant at Rocky Flats was buried in about a dozen acres at the INEEL. These locations are about 500 feet above the aquifer. This industrial-type waste contains an estimated several thousand pounds of

MD240

plutonium. Debate continues about the movement of traces of the buried plutonium downward through the 500 feet of soil toward the aquifer. Diversion dikes are preventing the repetition of past surface flooding of the burial site. This step should lessen the likelihood of further plutonium movement in the soil.

Digging up plutonium waste in Pit 9, and the soil immediately below it, will help in making future decisions. Cost and the risk of industrial accidents may not justify digging up the waste. Even if all the buried waste were dug up, the soil cannot be totally cleaned of plutonium contamination. Quantities of soil that are judged environmentally safe will need to be reburied.

Even if small quantities of plutonium reach the aquifer, they will most likely be filtered out before they reach any human. The properties of plutonium minimize its buildup in water. Its most common chemical compound, plutonium oxide, is less soluble than sand. Water does not easily dissolve or carry plutonium, a heavy metal.

Wastewater from some INEEL facilities was injected directly into the aquifer from 1953 until 1986. This wastewater contained very small quantities of plutonium. The quantities are only slightly more than can be attributed to fallout from nuclear weapons testing. Regulations apply to contaminants of water supplies. The Environmental Protection Agency has applicable drinking water standards. For plutonium, the injected water met all drinking water standards, both State and federal.

The trace quantities of plutonium move much slower than the water. Since 1953, water from the injection wells has moved in the aquifer an average of at least 20 miles in a southwesterly direction. Yet plutonium in barely detectable amounts has reached less than a half-mile from the injection wells. Thus plutonium is nowhere near the southern INEEL boundary.

Allegation: Inhaling one particle of plutonium can cause lung cancer. Plutonium has not been the identified cause of any cancer deaths in the U. S. Some workers who handled plutonium during World War II accidentally inhaled significant quantities. Doctors monitored one group of these workers regularly. Decades later the workers' rate of lung cancer was no greater than in the rest of American society.

Inhaled plutonium particles above a certain size do not reach the lungs. A person would need to inhale nearly one million of the largest particles reaching the lungs to become an eventual victim of lung cancer. A continuing concern expressed at public meetings is that the so-called HEPA filters used by industry to filter out extremely small plutonium particles are not as efficient as claimed. In this size range the number of particles that would cause a lung cancer, if inhaled by a person, is a billion or more.

Claim: A sheet of paper can stop radiation from plutonium. Essentially all radiation emitted by plutonium is of very low energy. The thickness of the human skin can therefore prevent radiation damage to the rest of the body. Plutonium can emit other forms of radiation with higher energy. However, their intensity is low and they do not

present great dangers. Nevertheless they are a factor, now that the amount of rad permitted for industrial workers has become more conservative. A plutonium-fa plant built in Germany, but never operated, is a monument to this increased conservatism.

Allegation: Plutonium makes a nuclear reactor accident much worse. All nuclear power plants that make electricity produce plutonium. For a typical U.S. plant, this plutonium generates about one-third of the total energy output. It is under controlled conditions. Under accident conditions, the reactor could be sufficiently damaged to result in the release of harmful radioactivity. The main threat would not be airborne plutonium. The accident at Three Mile Island in Pennsylvania dispersed no plutonium. Only a small amount was released during the much more severe accident at Chernobyl. Under no circumstances could a reactor explode like a nuclear bomb.

Concern: Plutonium from peaceful uses can be diverted to nuclear bombs. Each commercial nuclear power plant discharges once-used fuel each year containing several hundred pounds of plutonium. The U. S. does not attempt to recover the plutonium from the highly radioactive fuel. Other countries are recovering plutonium.

The recovery process is technically quite difficult. It is not realistic for terrorists. It requires a major national commitment in resources. Therefore the Russians and the U. S. are talking about including our excess weapons plutonium in fuel for power reactors. Not only would some bomb material be used up in producing energy, but also the remainder would be hard to recover after use in a reactor.

The countries that do recover plutonium from reactor fuel believe they account for the plutonium very carefully. Reactor plutonium is much less pure than weapons material. A very crude and inefficient nuclear bomb could be made from reactor plutonium at great risk to the producer.

Allegation: Plutonium can neither be transported nor disposed safely. No one anywhere in the world has been injured by radiation from shipments of nuclear materials. Plutonium, as nuclear weapons material, has been sent around the country for fifty years without a serious accident. Likewise shipments of used fuel from the nuclear Navy and from foreign reactors have had no serious accidents. The used fuels have operated successfully at much higher temperatures than the temperatures in the shipping containers. The containers are heavy, lead-shielded casks. They have been tested under very severe simulated accident conditions and proven safe.

The main form of plutonium loses its radioactivity very slowly. To lose it all will take about 200,000 years. (Remember that poisons like arsenic never lose their toxicity.) The EPA has approved the Waste Isolation Pilot Plant (WIPP) for storage/disposal of plutonium-contaminated waste generated by the nuclear weapons program. The State of New Mexico is challenging that decision. Their concern seems to center not around the plutonium, but around the hazardous organic solvents also in the waste.

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The U. S. is intending to dispose of once-used nuclear fuel containing plutonium at Yucca Mountain in Nevada. The government has not yet certified that facility as safe for this disposal. One reason that other countries recover the plutonium from nuclear fuel is to lessen the amount of material that needs such extraordinarily long safe storage. With the plutonium and other fuel materials removed, the resulting nuclear waste loses its radioactivity in about 500 years. The ability to build storage facilities that have lasted that long dates back to the Egyptians. Witness their pyramids.

In summary, since its discovery, plutonium has been intensively studied. Its qualities are better understood than many common industrial materials. It must be handled carefully, like any other useful but potentially harmful material. It has been generally used safely. The processes for handling it have continued to become more conservative. Members of Coalition 21 believe that the plutonium risks to the general public in Idaho are minimal. In our opinion, these risks can continue to be adequately managed.

For those wanting numbers: Inhalation risk: Swallowing an estimated 500 milligrams of plutonium will cause acute fatal damage to the GI tract. That amount is 50% more than an adult aspirin weighing 325 milligrams. Inhaling 20 milligrams of plutonium dust of optimal particle size will cause death in about a month due to lung damage.

Inhaling one-tenth of a milligram of plutonium will eventually cause fatal lung cancer. The largest particle of plutonium that can be readily inhaled is about 3 micrometers in diameter. (The diameter of the human hair is up to 20 times greater.) It would require 700,000 of these particles to make 0.1 milligrams. Reducing the diameter of the average particle to 0.2 micrometer decreases its volume by 3500. This reduction in size increases the potentially fatal number of particles (in 0.1 milligrams) to over 2 billion.

Plutonium in water: Measurements of plutonium traces in natural waters have been made in many places around the world. Water in contact with sediments (soils) dissolves only about one part in 10,000 to 100,000 of the plutonium in the adjacent sediment.

Plutonium forms and radioactivity: Pu-239 is the main form of plutonium, both in weapons and in a less pure state in reactor fuel. This plutonium isotope has a half-life of 23,400 years. (Half-life means the time to lose half of its remaining radioactivity). At most, ten half-lives are needed for essentially all radioactivity to disappear. Reactor fuel contains other plutonium isotopes with much shorter half-lives. The shorter half-life make them and the reactor fuel much more radioactive than weapons-grade plutonium.

References: Furnished on request.

Coalition 21 is an all-volunteer group supporting the beneficial uses of nuclear technology. You may write us with your comments on this summary at P. O. Box 51232, Idaho Falls, Idaho 83404. The email address is facts@coalition21.com.

George Freund prepared this summary. Reviewers included Coalition 21 members Jack Barraclough, John Commander, Steve Herring, Mary Huebner, and Dick Kenney.



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U. S. Department of Energy
Office of Fissile Materials Disposition
P.O. Box 23786
Washington, D.C.

COMMENTS ON SURPLUS PLUTONIUM DISPOSITION DEIS Sept. 15, 1998

DOE is to be congratulated on their efforts to incorporate in this DEIS suggestions and answers to various issues raised during earlier public comment periods for the Scoping and Storage & Disposition FEIS. There remain, however, some points about which we wish to comment or question:

1. World peace is extremely questionable with the current potential for proliferation of nuclear weapon materials. Thus, disposition of surplus plutonium by both the U.S. and Russia is of immediate importance. Russia intends to utilize their surplus as MOX (Mixed Oxide) nuclear fuel for power production. The U.S. should likewise be using their pure plutonium for energy production with MOX fuel elements. There is ample information available on MOX from the 1970's to the present. We strongly feel that only the plutonium too impure for either weapon or MOX fuel should be immobilized for burial. 4
2. We are unhappy that DOE has already selected Savannah River as the preferred site for MOX production, rather than awaiting the Record of Decision following the Final Environmental Impact Statement. WIPP might then be open to receive Rocky Flats waste now stored at INEEL. This would then show that the 'Settlement Agreement on Nuclear Wastes' is working, so that our political leaders and the public could actively support new projects at INEEL. 5
3. DOE's choice of Savannah River as the preferred site for MOX production was not based on any environmental issues at INEEL. We feel that DOE should clearly state that environmental impacts of the MOX project at INEEL would be extremely small and were not a basis of their preference of SRS for the Plutonium MOX Fuel Fabrication Facility. 6
4. Pantex was included as a possible site for the pit disassembly and conversion facility. This is logical since most of the MOX plutonium (as pits) is located there. The non-weapon plutonium oxide presents no different proliferation concern if it were to be shipped to INEEL. 7
5. Transportation distances to move plutonium oxide from Pantex would be essentially the same to INEEL as to SRS. Therefore, shipment to INEEL would not constitute any additional and unnecessary transportation, as claimed by DOE. 8
6. The plutonium too impure for MOX fabrication can logically be shipped directly to SRS for immobilization. 9

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MD240-4

Nonproliferation

DOE agrees with the commentator's view that surplus plutonium disposition by both the United States and Russia is of immediate importance to world peace and appreciates the support for the hybrid approach. The SPD EIS analyses include those materials suitable for immobilization and those suitable for MOX fuel fabrication. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself.

MD240-5

Alternatives

DOE has prepared this SPD EIS in accordance with the provisions of NEPA (42 U.S.C. 4321 et seq.) and the related CEQ and DOE implementation regulations (40 CFR 1500 through 1508 and 10 CFR 1021, respectively). In accordance with 40 CFR 1502.14(e), the agency shall identify its preferred alternative, if one or more exists, in the draft EIS and identify such alternative in the final EIS. DOE identified the preferred alternative, as required, so the public could understand DOE's orientation and provide comment. Decisions on the surplus plutonium disposition program at INEEL will be based on public input, environmental analyses, technical and cost reports, and national policy and nonproliferation considerations. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

MD240-6

Alternatives

As indicated in Section 1.6, SRS is preferred for the MOX facility because this activity complements existing missions and takes advantage of existing infrastructure and staff expertise. DOE prefers that INEEL focus on cleanup and nuclear technology. Environmental impact analyses of the proposed surplus disposition actions discussed in Chapter 4 of Volume I show that the potential impacts of the proposed actions during routine operations are small for all DOE candidate sites.

MD240-7**Alternatives**

Proliferation issues associated with the transportation of plutonium dioxide from a pit conversion facility at Pantex to a MOX facility at either INEEL or SRS would not be the only discriminating factor for selection between INEEL and SRS for the MOX facility. As indicated in the revised Section 1.6, SRS is preferred for the proposed surplus plutonium disposition facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure.

MD240-8**Alternatives**

DOE assumes that the commentor's suggestion is to locate the pit conversion facility at Pantex, the immobilization facility at either Hanford or SRS, and the MOX facility at INEEL. Transportation of pits from Pantex to INEEL rather than SRS may not involve additional, unnecessary transportation, but this arrangement would locate each of the proposed facilities at a different site. Section 2.3.1 of the SPD Draft EIS explained that a range of 23 reasonable alternatives remained after evaluating over 64 options against three screening criteria: worker and public exposure to radiation, proliferation concerns due to transportation of materials, and infrastructure cost. These 23 reasonable alternatives were evaluated in the SPD Draft EIS. After the Draft was issued, DOE eliminated as unreasonable the 8 alternatives that would involve use of portions of Building 221-F with a new annex at SRS for plutonium conversion and immobilization, thereby reducing the number of reasonable alternatives to the 15 that are analyzed in the SPD Final EIS. Options that placed each of the three facilities at a different site were eliminated as unreasonable.

MD240-9**Alternatives**

Most of the plutonium that would be immobilized under the hybrid alternatives would be sent directly to the immobilization facility for conversion to plutonium dioxide, followed by immobilization. SRS has been announced as the preferred site for all three proposed surplus plutonium disposition facilities; therefore, all the surplus plutonium would be transferred to SRS for processing should SRS be selected.

7. The combination of items 4, 5, and 6 would make a logical alternative that should have been considered by DOE. An explanation of why it wasn't would be in order. 10

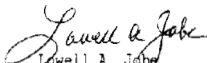
8. No reasons were stated in the DEIS for DOE's preference for siting MOX Fuel Fabrication at SRS beyond stating "DOEprefers similarly that INEEL should focus on cleanup and nuclear technology". We believe that the MOX project belongs in the 'nuclear technology' focus specified for INEEL. A MOX Fuel Fabrication Facility at INEEL could then continue the peaceful nuclear power technology that had its roots at INEEL. 11

9. A major example of 'nuclear technology' would be for DOE to choose Argonne-West as the site to make the lead assemblies and do post-irradiation examination if required for NRC licensing of MOX. Based on their superior equipment and expertise, we support Argonne-West for this work. 12

10. In answer to many commentators (including ourselves) for the need to analyze total costs of each alternative, DOE prepared a separate cost study (DOE/MD 0009) that will be considered along with the SPD EIS analysis in the decisionmaking process. This ROD must consider the cost results of that study and, at least, state that INEEL was very cost effective: the actual cost document shows INEEL lower cost than any other site or alternatives and even equal to or less than any immobilization-only alternatives. 13

11. In consideration of all the factors we have presented, based upon all SPD EIS documents reviewed, it appears to us that DOE should have given INEEL a more favorable consideration for the MOX Fabrication Facility or give the reasons for not doing so. 14

Respectfully submitted,


Lowell A. Jobs
Coalition 21

MD240

MD240-10

Alternatives

This comment is addressed in response MD240-8.

MD240-11

Alternatives

This comment is addressed in response MD240-6.

MD240-12

Lead Assemblies

DOE acknowledges the commentor's support for lead assembly fabrication and, if required, postirradiation examination at ANL-W. All the lead assembly candidate sites were considered because they have existing facilities that meet the standards for processing special nuclear material, would require only minimal alteration of interior spaces, and are authorized to handle plutonium. ANL-W was also identified as a potential location for postirradiation examination because of its existing hot cell facilities in which tests on fuel rods from irradiated lead assemblies could be conducted.

As discussed in the revised Section 1.6, based on consideration of capabilities of the candidate sites and input from DCS on the MOX approach, DOE prefers LANL for lead assembly fabrication. LANL is preferred because it already has fuel fabrication facilities that would not require major modifications, and takes advantage of existing infrastructure and staff expertise. Additionally, the surplus plutonium dioxide that would be used to fabricate the lead assemblies would already be in inventory at the site. DOE prefers ORNL for postirradiation examination activities. ORNL has the existing facilities and staff expertise needed to perform postirradiation examination as a matter of its routine activities; no major modifications to facilities or processing capabilities would be required. In addition, ORNL is about 500 km (300 mi) from the reactor site that would irradiate the fuel. Decisions on lead assembly fabrication and postirradiation examination will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

MD240-13

Cost Report

DOE acknowledges the commentor's support for the cost effectiveness of siting the proposed surplus plutonium disposition facilities at INEEL. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

MD240-14

Alternatives

DOE acknowledges the commentor's support for siting surplus plutonium disposition facilities at INEEL.

The remainder of this comment is addressed in response MD240-6.

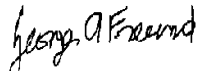
2025 Balboa Drive
Idaho Falls ID 83404

September 15, 1998

U. S. Department of Energy
Office of Fissile Material Disposition
P. O. Box 23786
Washington D. C.

Comments on Surplus Plutonium Disposition DEIS

1. DOE should clearly state that environmental impacts of the MOX project at INEEL would be minimal and that these impacts were not used to rule out INEEL as the preferred site for the MOX Fuel Fabrication Facility. The failure of INEEL to be the preferred site should not be used to generate opposition to future nuclear technology projects at INEEL. 1
2. To further nuclear technology at INEEL, DOE should select Argonne-West for the fabrication of the MOX lead assemblies and for their post-irradiation examination. ANL-West is the only DOE site deemed capable of doing both tasks. DOE should explain in the DEIS and/or ROD what advantages, if any, accrue from that fact. 2
3. DOE should explain in the DEIS when and why, under the hybrid option, it eliminated any alternative that would involve three separate facilities for the three tasks of (a) pit disassembly and conversion, (b) MOX fabrication and (c) immobilization. I believe an alternative involving Pantex for (a), INEEL for (b), and SRS for (c) would be competitive with other alternatives. It should not be dismissed out-of-hand and should be analyzed more thoroughly. 3



George A. Freund

MD239

MD239-1

Alternatives

DOE acknowledges the commentor's support for siting the MOX facility at INEEL. Chapter 4 of Volume I describes environmental impacts of the implementation of alternatives that included the construction and normal operation of MOX facilities at INEEL. DOE prefers that INEEL focus on cleanup and nuclear technology. Environmental impact analyses of the proposed surplus disposition actions discussed in Chapter 4 show that the potential impacts of the proposed actions during routine operations are small for all DOE candidate sites.

SRS is preferred for the MOX facility because this activity complements existing missions and takes advantage of existing infrastructure and staff expertise. Decisions on the surplus plutonium disposition program at INEEL will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

MD239-2

Lead Assemblies

DOE acknowledges the commentor's support for siting lead assembly and postirradiation examination activities in ANL-W at INEEL. As noted in Section 2.17, ANL-W was considered as one of several candidate sites because it would require only minimal alteration of interior spaces, is authorized to handle plutonium, and has existing facilities that meet the standards for processing special nuclear material.

As discussed in the revised Section 1.6, based on consideration of capabilities of the candidate sites and input from DCS on the MOX approach, DOE prefers LANL for lead assembly fabrication. LANL is preferred because it already has fuel fabrication facilities that would not require major modifications, and takes advantage of existing infrastructure and staff expertise. Additionally, the surplus plutonium dioxide that would be used to fabricate the lead assemblies would already be in inventory at the site. DOE prefers ORNL for postirradiation examination activities. ORNL has the existing facilities and staff expertise needed to perform postirradiation examination as a matter of its routine activities; no major modifications to facilities or

processing capabilities would be required. In addition, ORNL is about 500 km (300 mi) from the reactor site that would irradiate the fuel. Decisions on lead assembly fabrication and postirradiation examination will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

MD239-3

Alternatives

Section 2.3.1 of the SPD Draft EIS explained that a range of 23 reasonable alternatives remained after evaluating over 64 options against three screening criteria: worker and public exposure to radiation, proliferation concerns due to transportation of materials, and infrastructure cost. Options placing three facilities at three different sites were eliminated from consideration because this arrangement did not meet these screening criteria. Options were not dismissed out of hand, but were eliminated as part of a methodical process to narrow the scope of this SPD EIS to a reasonable range of alternatives. Since publication of the SPD Draft EIS, DOE eliminated another 8 alternatives that would have involved the use of portions of Building 221-F at SRS and a new annex for plutonium conversion and immobilization at that site, thereby reducing the number of reasonable alternatives to 15 that are analyzed in the SPD Final EIS. The environmental impacts of these alternatives are summarized in Section 2.18 and elaborated in Chapter 4 of Volume I.

Mary Jane Fritzen
390 Lincoln Drive
Idaho Falls, Idaho 83401-4166

23 August 1998

Subject: Comments for public meeting on Surplus Plutonium Disposition

I have learned a lot about science by reading information about nuclear energy. I am not associated with the field, except to live in Idaho Falls with neighbors who work for nuclear industry. Many good people work for "the site." It has been good for this city. For example, they are peacccal citizens, who contribute to the fine arts, making Idaho Falls a place of peace, beauty and culture.

Points I see in general, which apply to the issue:

1. Need for energy independent of expendable fossil fuel. Otherwise we would depend on Middle East, where peace is insecure.

2. Need for continued good relations with Russia

Recently (June 1998, Provo, Utah) I listened to a forum of two speakers: the U. S. General in charge of on-site inspections, and the Russian General in charge of on-site inspections. Subject with the nuclear non-proliferation treaty between the two nations. Both generals emphasized the success of such mutual inspections. They said working together makes us friends. We are only afraid of our enemies. For example, the U.S. doesn't fear Canada. The need for disarmament vanishes when we are friendly. Both speakers advocated "open skies," because fear is bred in ignorance or secrecy, while knowledge dispels fear. They said high technology is not needed for open skies. Someone with binoculars in a helicopter could detect a major military build-up. The previous build-up of warheads was caused by each fearing the other was a threat.

(I typed detailed notes, which I would be happy to send if requested.)

3. Need to use and value the expertise of nuclear scientists. For example, one speaker at last week's public meeting advocated converting the plutonium to metal for storage.

Because an uninformed public is fearful of nuclear energy, I believe education of students in public schools and of journalists is necessary.

*Thank you,
Mary Jane Fritzen*

FD199

FD199-1

Other

DOE acknowledges the commentor's views on the value of nuclear industry workers in Idaho Falls, nuclear power as an alternative energy source, the nonproliferation activities of the United States and Russia, and public information and education programs with regard to nuclear energy.

The United States and Russia recently made progress in the management and disposition of plutonium. In late July 1998, Vice President Gore and Russian Prime Minister Sergei Kiriyenko signed a 5-year agreement to provide the scientific and technical basis for decisions concerning how surplus plutonium will be managed. This agreement enables the two countries to explore mutually acceptable strategies for safeguarding and dispositioning surplus plutonium. During the first week of September 1998, Presidents Clinton and Yelstin held a Moscow summit and signed a statement of principles with the intention of removing approximately 50 t (55 tons) of plutonium from each country's stockpile.

The United States does not currently plan to implement a unilateral program; however, it will retain the option to begin certain surplus plutonium disposition activities in order to encourage the Russians and set an international example.

DOE regards public education as a very high priority. Accordingly, it uses various communications resources to make information on its policies and program publicly available. DOE presents information about the disposition of fissile materials to the public in various forms. These include public hearing presentations, fact sheets, exhibits, technical reports, visual aids, and a video. Information is available from a variety of sources, including DOE reading rooms, the MD Web site (<http://www.doe-md.com>), and attendance at public hearings.



United States
Department
of Energy

Comment Form

9/16/98

NAME: (Optional) Walter L. Hampson
ADDRESS: 8145 Rob Ln, Boise, ID 83703-2566
TELEPHONE: (208) 853-0814; FAX: (208) 853-7528
E-MAIL: Soon

- See my comments in 1997 AFTER ATTENDING THE IDAHO FALLS meeting; THEY ARE ALL STILL VALID TODAY (See Copy Attached)
- ALTHOUGH I STILL THINK HANFORD IS THE LOGICAL choice FOR MOX FABRICATION, I SEE NO PARTICULAR objection to Savannah River. I AM GLAD TO SEE THINGS PROGRESSING TOWARD ESTABLISHING U.S. MOX FABRICATION SOON. I THINK WE SHOULD DO THE SAME THROUGHOUT THE FUEL CYCLE AND MAINTAIN "STAND ALONE" CAPABILITY IN CASE OF FUTURE needs, both military AND DOMESTIC.
- THE SUBJECT EIS MATERIAL IS VERY WELL DONE AND EASY TO FOLLOW HOWEVER THE SELECTION OF SITES FOR SPECIFIC TASKS SEEMS TO BE BASED ON CONSIDERATION OF OTHER WORKS BEING DONE AT THOSE SITES. I WOULD THINK THE MOST SUITABLE SITE FOR THE WORK THAT SEEMS TO BE ARBITRARY JUDGMENT AS TO THE SITES CAPABILITY TO ACCOMPLISH A MULTI-PURPOSE MISSION AND MAY NOT RESULT IN THE PROPER, LOWEST COST, DECISION. TOO MUCH AT ONE SITE MIGHT JEOPARDISE SECURITY, i.e. more vulnerable to enemy actions??
- THANK YOU FOR THE OPPORTUNITY TO REVIEW & COMMENT. & GOOD LUCK!
Sincerely, Walter Hampson

* Attached 1977 Comments
* Note: FAX'd on 9/16/98;
will also mail on 9/16/98 w/CC

1

2

FD311

FD311-1

MOX Approach

DOE appreciates the commentator's input on the MOX approach to surplus plutonium disposition. The current plan calls for maintaining the MOX fuel cycle within the United States. The MOX fuel would be fabricated in a Government-owned facility and irradiated in a domestic, commercial reactor in a once-through cycle with no reprocessing.

FD311-2

General SPD EIS and NEPA Process

DOE acknowledges the commentator's views on the selection of sites for MOX fuel fabrication. DOE believes that Hanford's efforts should remain focused on its current high-priority cleanup mission. The importance of cleanup at Hanford was taken into consideration in identifying preferred sites for surplus plutonium disposition activities. However, no decision has been made and DOE will continue to consider Hanford for surplus plutonium disposition programs that are compatible with the Hanford mission.

As indicated in Section 1.6, SRS is preferred for the MOX facility because this activity complements existing missions and takes advantage of existing infrastructure and staff expertise.

Attachment to 1998 Comments, 9/16/98 (1997 copy)

Surplus Plutonium Disposition
Environmental Impact Statement
Comment Form

United States Department of Energy

NAME: (Optional) WALTER L. HAMPSON
ADDRESS: 8145 Rue Ln, Boise, ID 83703-2566
TELEPHONE: (208) 853-0614; FAX: (208) 853 7528
E-MAIL: _____

3
4
5

- MOX FUEL FABRICATION SHOULD BE DONE! IT CAN BEST BE DONE AT HANFORD WHERE EXTENSIVE R. & D. plus COMMERCIAL PLANT RUNS ON MOX FUEL WAS DONE IN THE 1960'S AND EARLY 1970'S. IN ADDITION, A COMMERCIAL MOX PLANT WAS INSTALLED AND OPERATED BY EXXON NUCLEAR (NOW H.G. SAHNEUS) ADJACENT TO THE NUCLEAR RESERVATION. A COMMERCIAL RELOAD OF MOX FUEL WAS FABRICATED AND SHIPPED TO THE KATHL TEST REACTOR IN GERMANY (BY AIR) IN THE EARLY 1970'S.
- THIS SHOULD BE DONE BY AMERICAN CONTRACTORS ON A SECURE FEDERAL NUCLEAR RESERVATION UNDER MILITARY-TYPE CONTROL.
- ESTIMATES SHOULD BE MADE BY EXPERIENCED ENGINEERS IN THE FABRICATION OF MOX FUEL. IF NOT, ESTIMATES BY PEOPLE WHO HAVE NOT DONE IT SHOULD PROBABLY BE DOUBLED OR TRIPLED. THIS IS A VERY DEMANDING BUSINESS IN EVERY WAY AND THERE IS NO SUBSTITUTE FOR ACTUAL "HAVE DONE IT" TYPE EXPERIENCE. (DON'T TRY "VIRTUAL REALITY" ON THIS ONE)
- OTHER COUNTRIES ARE PROCEEDING WITH THE TOTAL FUEL CYCLE, INCLUDING ENRICHMENT (CENTRIFUGE & AVLIS), REPROCESSING, MOX FUEL FABRICATION AND FAST BREEDER REACTORS, REGARDLESS OF WHAT THE UNITED STATES DOES. THEREFORE THE U.S. DECISION SHOULD NOT FACTOR IN "PERCEPTIONS" OF WHAT OTHER COUNTRIES MIGHT THINK OR DO. THEIR ENERGY NEEDS ARE, IN GENERAL, MUCH MORE ACUTE THAN THE U.S. THEREFORE THEY MAY BELIEVE THE ADDED RISKS OF NUCLEAR ARE WORTH IT. PROLIFERATION MUST BE ADDRESSED EVERYWHERE -- IF WE WANT TO BE AN EXAMPLE, WE SHOULD DEMONSTRATE THE PROPER WAY TO DO THINGS, RATHER THAN "BACK AWAY" AND HOPE FOR THE BEST! THE "GENIE" IS OUT OF THE BOTTLE -- WE PUT THE OTHERS IN THIS BUSINESS -- LET'S STAY IN IT AND SHOW THEM FOR FURTHER INFORMATION CONTACT: HOW TO DO IT RIGHT!

U.S. Department of Energy, Office of Fissile Materials Disposition, MD-4
Forrestal Building, 1000 Independence Ave., SW, Washington, D.C. 20585
1-800-820-5156

W. Hampson

FD311

3-243

FD311-3

MOX Approach

DOE has identified as its preferred alternative a hybrid approach of using both immobilization and MOX fuel fabrication to disposition up to 50 t (55 tons) of surplus plutonium. Under this alternative, approximately 33 t (36 tons) of clean plutonium metal and oxides would be used to fabricate MOX fuel, which would be irradiated in domestic, commercial reactors. The remaining 17 t (19 tons) of surplus, low-purity, nonpit plutonium is not suitable for fabrication into MOX fuel because of the complexity, timing, and cost that would be involved in purifying those plutonium materials.

The remainder of this comment is addressed in response FD311-2.

FD311-4

MOX Approach

DOE conducted a procurement process to acquire MOX fuel fabrication and irradiation services. The selected team, DCS, would design, request a license, construct, operate, and deactivate the MOX facility as well as irradiate the MOX fuel in domestic, commercial reactors. However, these activities are subject to the completion of the NEPA process. Although COGEMA is international, it is one of only a few companies with recent commercial MOX fuel fabrication experience, and this experience would contribute to the success of DOE's MOX fuel fabrication effort.

The MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program.

FD311-5

Nonproliferation

The *Joint Statement of Principles* signed by Presidents Clinton and Yeltsin in September 1998 provide general guidance for achieving the objectives of a future bilateral agreement to disposition surplus plutonium in the United States and Russia. Sensitive negotiations between the two countries have indicated that the Russian government accepts the technology of immobilization for low-concentration, plutonium-bearing materials, but that

the MOX approach would be considered for higher-purity feed materials. DOE will continue to discourage Russia from reprocessing its spent nuclear fuel and starting a plutonium cycle but this issue is beyond the scope of this SPD EIS. As stated in response FD311-1, the use of U.S. surplus plutonium in existing domestic, commercial reactors does not involve reprocessing (reprocessing is a chemical separation of uranium, transuranic elements [including plutonium], and fission products from spent reactor fuel and the reuse of the plutonium and uranium to produce new fresh fuel). The proposed use of MOX fuel is consistent with the U.S. nonproliferation policy and would ensure that plutonium which was produced for nuclear weapons and subsequently declared excess to national security needs is never again used for nuclear weapons. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input, not “perceptions” of what other countries may think or do.

NEWS RELEASE

RE: The MOX plutonium fuel refinery(or how to accidentally become the supersite)

Rumors of the death of MOX have been greatly exaggerated. How long will it take for Kempthorne or Huntley to organize a rally for the nuclear project after they are elected? I'd give them 30 minutes to call their supporters on the Idaho Falls Chamber of Commerce. These people have never met a nuclear project that they didn't like. We should be prepared. We should reinstate accident analysis into our state Air Quality Permits but our politicians refuse. Please let me explain...

The first tier EIS for plutonium disposition talked about the "triple play".(1/97) For the first time the DOE stated that an accident at the nuclear reactors that will use the plutonium fuel(plus make tritium for nuclear weapons and electric power to be sold) could cause up to 7,000 cancer deaths. In the final analysis INEEL has less people living in the 50 mile area that is used to compare project sitings. The DOE admits that the choice of where to build this nuclear supersite may change in the final document.

In 1991, the DOE was passing out pink slips at the ICPP, saying fuel reprocessing was over. At the same time, the DOE was applying for 17 Air Quality Permits to prepare to reprocess 17 types of fuel rods. Thanks to the nuclear "deal" we are now receiving many types of fuel rods from around the world. The nuclear businesses that pay Kempthorne and Huntley view spent fuel rods and weapons grade plutonium as a fuel source, not a waste.

During the documented transcript of my appeal of that Air Quality Permit I caught the DOE lying about the accident analysis that was required for the permit. The wrong computer program, that wasn't supposed to be used for accidents, eliminated most of the radionuclides released, falsifying the results. The state response was to look the other way and then they removed the requirement for accident analysis for permits!

So I ask you, were they protecting your children, or protecting Lockheed? Even if the MOX plutonium project goes to South Carolina, why won't Kempthorne and Huntley join me in my effort to reinstate accident analysis to the permits to protect state's rights?

My sympathy is with the family of the INEEL worker who died in their most recent accident. Doctors make mistakes, too, and fortunately this was not a big nuclear accident. Doctors can only kill one person at a time, when we make a mistake during a necessary operation. The nuclear businesses can devastate a whole area and that's why we must question if the nuclear future is on a dead end road. The people of Idaho have a right to know the truth about our nuclear future. We have a right and obligation to our children to not remain at the mercy of political salesmen like Kempthorne and Huntley. Is states right's just a cute phrase politicians use to get elected? Should we remain at the mercy of Bill Clinton's DOE ? Do Bill, Dirk, and Bob know what's best or should we put accident analysis back in our state permits ?

Dr. Peter Rickards DPM
Box 911,TF,83303
734-7941(H), 734-3338(W)

IDD02

IDD02-1

Human Health Risk

DOE acknowledges the commentor's concern about the MOX approach. This SPD EIS does not address the siting or operation of a "triple play" reactor. Section 4.28 was revised to provide reactor-specific analyses and discuss the potential environmental impacts of using a partial MOX core during routine operations and reactor accidents. Reactors that use MOX fuel have small accident risks similar to those associated with reactors that use only LEU fuel. Were a major accident to occur at a reactor using either fuel type, there would be fatalities in the public. However, the probability of a major accident actually occurring is about 1 in 100,000 over the lifetime of the reactor; thus, the risk (consequence times probability of occurrence) of an LCF in the public is much less than 1.

Changes to Idaho air quality permit requirements are beyond the scope of this EIS; they are a State rather than a DOE issue. However, contacts have been made with the Idaho Division of Environmental Quality and with the contractor responsible for air quality permits for INEEL. There have been no State requirements to perform an accident analysis as part of the air-permitting process regardless of the type of pollutant that could be emitted (criteria pollutants, toxic pollutants, or radionuclides). Only routine operations are considered in the air-permitting process.

Yes. This is Thomas J. Sutter. 1414 South 35 West, Idaho Falls, ID 83402-5538. Telephone number is 529-0624. What I'd really like to know is where the workshops are at today on the Surplus Plutonium Disposition Draft Environmental Impact Statement Public Meeting. I see there is an afternoon and evening workshop, but it doesn't give where they're going to be at.

Second thing is, I just want to let it be known that I'm in favor of the MOX program and I would think that disposing of plutonium which is no longer needed for nuclear weapon should be in the best interests of our country. Also I would think that if we had the opportunity to receive any of that material from any other nation in the globe, it would be best if we did the reprocessing and particularly if we could do it here in Idaho it would make a lot of sense to me. But if we can't then I would encourage reprocessing it wherever its going to be done. And I would like to also note that this plutonium is very valuable material and it should not be placed in a depository where it could not be put to better use at some time in the future and the, only the most impure plutonium that can not have any further use should be put in the glass and buried directly. So I'd just like to talk in support of the MOX program as proposed by the Department of Energy. Thank you very much and if you would let me know where the meeting is going to be I would appreciate it. Tom Sutter 529-0624. Thank you.

1


PD033

PD033-1**MOX Approach**

DOE acknowledges the commentor's support for the MOX approach.

It should be noted, however, that DOE is not considering reprocessing any of the surplus plutonium that is the subject of this SPD EIS. The proposed action is intended to permanently remove 50 t (55 tons) of plutonium from the U.S. weapons stockpile by converting that plutonium into proliferation-resistant forms. Reprocessing plutonium would not be consistent with that goal.

DOE has identified as its preferred alternative the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

 **United States
Department
of Energy** *Comment Form*

NAME (Optional) Theodore Watanabe
ADDRESS: P O Box 2441 Idaho Falls ID 83401
TELEPHONE: (208) 523 5712
E-MAIL: _____

Presently weapons material of all type
are stored in secure locations.
The best option is maintain ^{the} status
QUD. 100 YEAR REEXAMINE the problem

1

IDD06

IDD06-1

Alternatives

DOE acknowledges the commentor's support of the No Action Alternative to surplus plutonium disposition, the details and environmental impacts of which are described in Section 4.2. DOE has determined, however, that no action (i.e., continued storage) would not satisfy the surplus plutonium disposition program goal: to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. Converting the surplus plutonium into MOX fuel and using it in domestic, commercial reactors is an effective way to accomplish this. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

U.S. Department of Energy
 Office of Fissile Materials Disposition
 P.O. Box 23786
 Washington, DC, 20026-3786

Dear Department of Energy, Office of Fissile Materials Disposition:

I do not support plutonium processing at the Pantex Plant. In the *Surplus Plutonium Disposition Draft Environmental Impact Statement*, the Department of Energy prudently decided against locating one plutonium processing facility (MOX fuel fabrication) at the Pantex Plant. For the following additional reasons, a Plutonium Pit Disassembly and Conversion facility also should not be located at Pantex:

Pantex Should Not Become the Next Rocky Flats

Pantex has never processed plutonium. The Pantex Superfund site has so far apparently escaped the type of radioactive contamination found at plutonium processing sites like Rocky Flats in Colorado and Hanford in Washington.

Risks That Are Unknown Are Too High

The Pantex Plant occupies an area that is a fraction of the size of other plutonium sites.

SIZE MATTERS: A Comparison of the Area of the Four Candidate Sites (Square Miles)			
Pantex	Savannah River Site	Idaho National Engineering Lab.	Hanford
23	309	890	560

The technologies proposed in the Plutonium Pit Disassembly and Conversion Facility are undemonstrated and unproven. It is unacceptable to have plutonium operations above the Ogallala Aquifer and only one mile from where people live and work in a vibrant agricultural producing area. The Pantex legacy already includes heavy contamination in a perched layer of groundwater less than one hundred feet above the Ogallala Aquifer. This pollution extends from under the Pantex Plant to adjacent private property and the real impacts remain unknown. The risk of any additional groundwater pollution is unacceptable in an agricultural region.

Common sense dictates that negative consequences to people and farmland from nuclear accidents are far more likely in a small, open, windy location like Pantex. The Department of Energy has acknowledged that the most visually unappealing feature of the plutonium facilities will be their smokestacks. Visual blight will be a minor inconvenience compared to the air pollutants--many of them radioactive--expected to escape into the atmosphere daily through smokestack filters. Routine air emissions of tritium, plutonium, americium, and beryllium constitute unacceptable new hazards to the Texas Panhandle.

MD045

MD045-1

Alternatives

DOE acknowledges the commentor's opposition to siting the proposed surplus plutonium disposition facilities at Pantex. As described in Chapter 4 of Volume I and summarized in Section 2.18, potential impacts of any of the proposed activities during routine operations at any of the candidate sites would likely be minor. To avoid contamination that has occurred in the past at some DOE sites, DOE would design, build, and operate the proposed surplus plutonium disposition facilities in compliance with today's environmental, safety, and health requirements. Decisions on the surplus plutonium disposition program at Pantex will be based upon environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

MD045-2

Human Health Risk

Although Pantex is smaller in overall size in comparison with the other candidate sites, analyses in Chapter 4 of Volume I indicate that impacts of operating the pit conversion facility on health, safety, and the environment at Pantex would likely be minor (e.g., see Section 4.6).

While it is true that the pit conversion facility is the first consolidated facility for accomplishing this mission on a large scale, the processes that would be used in this facility are not entirely new. Many of these processes are in use at LANL and LLNL. In addition, DOE has recently started a pit disassembly and conversion demonstration project at LANL, where processes will be further developed and tested.

Section 4.26.3.2 analyzes impacts to the environment (including contamination to the Ogallala aquifer) due to construction and normal operation of a pit conversion facility at Pantex. There would be no discernible contamination of aquatic biota (fish) or drinking water, either from the deposition of minute quantities of airborne contaminants into small water bodies or from potential wastewater releases. Therefore, it is estimated that no measurable component of the public dose would be attributable to liquid pathways. Appendix J.3 includes an analysis of

potential contamination of agricultural products and livestock and consumption of these products by persons living within an 80-km (50-mi) radius of Pantex. If the proposed surplus plutonium disposition facilities were located at Pantex, a very small incremental annual dose to the surrounding public from normal operations would result via radiological emission deposition on agricultural products (i.e., food ingestion pathway). This dose (about 0.56 person-rem/yr) would be 0.0006 percent of the dose that would be incurred annually from natural background radiation. This analysis indicates that impacts of operating the pit conversion facility on agricultural products, livestock, and human health at Pantex would likely be minor.

MD045-3

Human Health Risk

It is DOE policy to operate in compliance with all applicable air quality requirements and to protect human health and the environment. DOE takes into consideration pollution reduction techniques to minimize air releases when designing, constructing, and operating its facilities. It also considers aesthetic and scenic resources in the design, location, construction, and operation of facilities. Potential concentrations of air pollutants at Pantex for the various alternatives have been estimated, considering appropriate local meteorology and other data associated with the area. Because the releases from the pit conversion and MOX facilities would be very small (see Appendix J.3.1.4), estimates of resultant radiological health risks are small. As indicated in Section 4.17.2.4, the maximum possible dose delivered to a member of the public during operations of the MOX and pit conversion facilities at Pantex would be 0.068 mrem/yr, 0.02 percent of the dose that individual would receive annually from natural background radiation. The estimated dose to the public from radiological emissions (e.g., americium, tritium, and plutonium) would be 0.077 person-rem/yr which would result in an increase of 2.9×10^{-3} LCFs over the 10-year operating life of the pit conversion facility. Any new facilities that might be built would be within existing site boundaries, and would be matched aesthetically with the current plant to limit potential visual impacts.

**There is Valid, Strong Criticism of Safety
in the Storage of Plutonium at Pantex**

Since Pantex became the nation's long-term storage location for up to 20,000 plutonium pits, promises to improve safety conditions have not happened. The U.S. Government Accounting Office and the Defense Nuclear Facilities Safety Board have issued reports critical of plutonium storage safety at Pantex. Fifty million taxpayer dollars were spent on a failed plutonium pit container program (the AT-400A) and the plan to move over 10,000 pits into a safer remodeled building (Building 12-66) has also failed.

When it comes to plutonium pit storage problems, Panhandle residents are back to square one. The plutonium remains in old, unsuitable, corroding storage containers and in 35-55 year old "bunkers" that the Department of Energy promised were for "temporary" use. Plutonium that is supposed to be stored in a stable environment now sits in the bunkers--all but three without air conditioning--even as the Texas Panhandle experiences a spell of more than 40 consecutive days of 90+ degree temperatures, and more than 20 days this summer with thermometers registering 100+ degrees. If the Department of Energy cannot accomplish the job of safely storing Pantex plutonium in the most stable environment, there is no reason to accept its unsubstantiated assurances to safely process deadly plutonium powders at Pantex.

Thank you for this opportunity to comment.

Sincerely:

*as concerns mount, I appeal to the disposition
process to remove all endogenous storage as well
as processing further unsafe unproven commitments
in Pantex site and safekeeping be initiated for the
world's peoples.*

*Mary J. Nicholson
Mrs. Leonard F. Nicholson*

*720 Wheatmoreland Dr.
Varna, W.Va., IA 6006*

memberships at the PEACE FARM

MD045

MD045-4

DOE Policy

DOE acknowledges the commentator's concern regarding the safe storage of plutonium pits at Pantex. DOE is committed to the safe, secure storage of pits and is evaluating options for upgrades to Pantex Zone 4 facilities to address plutonium storage requirements. DOE has addressed some of the commentator's concerns in an environmental review concerning the repackaging of Pantex pits into a more robust container. This evaluation is documented in the *Supplement Analysis for: Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components—AL-R8 Sealed Insert Container* (August 1998). This document is on the MD Web site at <http://www.doe-md.com>. Based on this supplement analysis, the decision was made to repackage pits at Pantex into the AL-R8 sealed insert container and to discontinue plans to repackage pits into the AT-400A container.

Worker exposures estimates attributable to the decision to repackage pits in AL-R8 sealed insert containers were incorporated in the revised Section 2.18 and Appendix L.5.1.

The issues raised in this comment relate to pit storage decisions made in the *Storage and Disposition PEIS* and the *Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components* (DOE/EIS-0225, November 1996). DOE is considering leaving the repackaged surplus pits in Zone 4 at Pantex for long-term storage. An appropriate environmental review will be conducted when the specific proposal for this change has been developed, addressing, for example, whether additional magazines need to be air-conditioned. The analysis in this SPD EIS assumes that the surplus pits are stored in Zone 12 in accordance with the ROD for the *Storage and Disposition PEIS*.

MD045-5

Nonproliferation

The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an

environmentally safe and timely manner. In late July 1998, Vice President Gore and Russian Prime Minister Sergei Kiriyenko signed a 5-year agreement to provide the scientific and technical basis for decisions concerning how surplus plutonium will be managed. This agreement enables the two countries to explore mutually acceptable strategies for safeguarding and dispositioning surplus plutonium. During the first week of September 1998, Presidents Clinton and Yeltsin held a Moscow summit and signed a statement of principles with the intention of removing approximately 50 t (55 tons) of plutonium from each country's stockpile.

The remainder of this comment is addressed in response MD045-4.

O'NEILL, JOHN
PAGE 1 OF 1

JUL 28 RECD

7-24-98

U.S. Department of Energy
Office of Fissile Material Disposition
P.O. Box 23786
Washington, D.C. 20026-3786

RE: Fissile Materials Disposition, SPD/EIS COMMENT

The fact that we have a surplus of fissile material to dispose of would indicate that we over produced and should be cutting back on up-grading U233, Pu239 and U235.


If we have a surplus of fissile material as you maintain, the up-grading plants at Oak Ridge, Paducah KY and Portsmouth OH should shut down; thereby lessening the requirement for electric power plants (ie Indiana Kentucky Electric (IKE) government contract plant at Madison, IN). The IKE plant that furnishes power for the diffusion plant at Portsmouth OH has been burning around 4 million ton of high sulfur coal per year for 50 years (recently switched to Wyoming coal) with environmental complaints all the way to Canada. CCHW rates the plant EPA Superfund. The Ohio river is so contaminated with PCBs the fish can't be eaten, but millions of people have to drink from it.

Thanks for your consideration.

John O'Neill
1713 Oak Hill Dr.
Madison, IN 47250-1750

PH: 812-273-1600

Sincerely,



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MD003

MD003-1

General SPD EIS and NEPA Process

The Portsmouth and Paducah plants have not produced fissile materials since 1992; the Oak Ridge plant is shut down. These plants produced enriched uranium for commercial nuclear reactors.

The fate of the gaseous diffusion plants at Portsmouth and Paducah would not be affected by the surplus plutonium disposition program. Section 4.30.3 analyzes the conversion of depleted uranium hexafluoride, from a representative site (Portsmouth), to uranium dioxide, which would be used as feedstock for immobilization and MOX fuel fabrication. DOE currently has a large excess inventory of depleted uranium hexafluoride, therefore the gaseous diffusion plants do not need to operate to support this program. Further, DCS has the option of acquiring uranium dioxide from another source.

<input checked="" type="checkbox"/>	YES!	Keep Texas Panhandle water, air, and soil safe from radioactive pollutants	1
What does Rocky Flats have to do with			
<input checked="" type="checkbox"/>	NO!	To any plutonium processing in the Texas Panhandle	2
a workable energy policy for the USA?			
<input checked="" type="checkbox"/>	YES!	To minimal handling and processing of plutonium and other nuclear materials	3
<input checked="" type="checkbox"/>	NO!	To converting military plutonium for use in mixed oxide (MOX) fuel	4
Signed: <u><i>Vic Hummert</i></u>			

CD0059

CD0059-1

Alternatives

Sections 4.17 and 4.26.3 describe the potential effects of the maximum impact alternative on air quality, water resources, and soil. These analyses indicate that the impacts of construction and normal operation of the pit conversion and MOX facilities on air, water, and soil at Pantex would likely be minor. To avoid future contamination, DOE would design, construct and operate the proposed surplus plutonium facilities in compliance with today's more stringent environmental, safety and health requirements.

CD0059-2

Alternatives

DOE acknowledges the commentor's opposition to the surplus plutonium disposition program at Pantex. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

CD0059-3

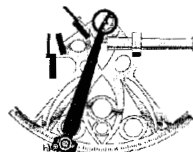
DOE Policy

The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. DOE is committed to public and worker safety during the construction, operation, and deactivation of the proposed surplus plutonium disposition facilities, and would implement appropriate controls and procedures to ensure compliance with all applicable Federal, State, and local laws, rules, regulations, and requirements.

CD0059-4

MOX Approach

DOE acknowledges the commentor's opposition to the MOX approach to surplus plutonium disposition. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in weapons again.



Gary Research
Operations Research
Robert Gary, MBA, JD, Principal Investigator
2211 Washington Ave. Silver Spring, MD 20910-2620 Tele: (301) 587-7147

Howard Canter
(Attn: Mr. Dave Knowlton)
Office of Fissile Materials Disposition
U.S. Department of Energy
Washington, DC 20585

July 21, 1998

Dear Messrs Canter and Knowlton,

First I would like to thank Mr. Dave Knowlton for taking the time to speak with me today by phone. I really did believe in 1997 when my book, *The Case Against MOX*, was presented that this ill-conceived program had been put to bed, but I was wrong. I now find that DOE is going through a whole new round of environmental impact statements to foster the program of Ex-Secretary Hazel O'Leary.

So I now have to petition DOE for redress of grievances with regard to the areas in which they were unfair to me in answering my prior questions, and in regard to systematic objections I have to their entire EIS process. I will have answers to the questions in this letter if it's the last thing I ever do in this world. It might save us all a lot of time if you just sent me a letter back with the answers.

(1) First of all I want to ask about the deal with Yeltsin government in the Russia. Now, if I understand that right we have to destroy our weapons grade plutonium because Mr. Yeltsin insisted on it and he wouldn't make the deal unless we agreed to do it just that way. Is this true? Isn't it in fact true that it was Mr. Clinton and the American delegation that initially proposed the MOX plan, not Mr. Yeltsin, and it was that insisted in working this into the agreement not the Russians, and it was because of internal politics and priorities within the White House and within the newly constituted DOE with all the new appointees formerly with the Natural Resources Defense Council and other environmental groups in Washington DC? If I ask Mr. Yeltsin about this is he going to say that it was him that insisted on the MOX program as a condition of any deal, or is he going to deny that, and say it was an American proposal, and an American idea?

1

2

MD007

MD007-1

General SPD EIS and NEPA Process

DOE makes every effort to respond to each comment in a fair and appropriate manner and regrets if previous responses were not satisfactory. DOE acknowledges the commentator's opposition to the MOX approach. The *Storage and Disposition PEIS* ROD outlines DOE's decision to pursue a hybrid approach to surplus plutonium disposition that would make the plutonium inaccessible and unattractive for weapons use. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in weapons again.

MD007-2

Nonproliferation

The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. Converting the surplus plutonium into MOX fuel and using it in domestic, commercial reactors is an effective way to accomplish this. We must ensure that nuclear arms reductions cannot be easily reversed, politically or legally, by making such reuse technically difficult, time consuming, and very costly. Sensitive negotiations between the two countries have indicated that although the Russian government accepts the technology of immobilization for low-concentration, plutonium-bearing materials, but that the MOX approach would be considered for higher-purity feed materials. Close cooperation between the two countries is essential to achieve the objectives of nonproliferation and arms reduction and to ensure secure management of nuclear weapons materials.

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(2) From my conversation with Mr. Dave Knowlton this day, I understand that only the newer of the American reactors will be used to burn MOX fuel. This seems to be a concession to the fact that embrittlement is a genuine concern in using MOX pellets in a reactor core. Is that correct. If embrittlement is not a concern of any kind, then why not use old, middle aged, and new reactors? Why limit the MOX program to the newer reactors. If embrittlement is a concern and MOX pellets are placed in new reactors won't this fuel age them prematurely. Won't it cost the utilities money to replace parts and to take extra safeguards against embrittlement? Won't the utilities pass these costs on to somebody? Would that be the ratepayers or the shareholders? Americans either way right?

(3) I understand that there are estimates on the total volume of low level waste that the MOX program will entail. What are they? What is the scenario for dealing with these low level wastes. Are the Governors in the states where they are generated going to be stuck with them? Is the Federal government going to take responsibility for them? Where will they be placed, Yucca Mountain not being open, and Barnwell be available only to a small a select group of utilities. Will the governors have to fend for themselves somehow?

(4) NASA and DOE were very unfair to me in answering my issue about the potential value of Plutonium-239 as a propulsion source for interplanetary travel in the next century. Every effort was made to create confusions between Pu-238 and Pu-239. Additional efforts were then made to create confusions between propulsion systems and onboard electrical power systems. Finally my ideas were compared to matter and anti-matter systems which is to say they were written off utterly and placed in the file of ideas that had previously been written off. Then DOE turned around and told me that they were in regular consultation with NASA about any possible uses NASA might have for nuclear materials. Well, listen I can sympathize if you don't understand my ideas. There is the Library of Congress, there are many sources of information, go get information, learn the difference between a propulsion system and an RTG and a thermionic battery. But telling me you are in regular consultation with NASA over the issues I raise is plainly untrue and unfair. It's like saying, "Your consent is not required, we know what we are doing, we are having meetings with the right people, so but out". As you well know from our Declaration of Independence governments derive their just powers from the consent of the governed. When you treat me unfairly you take the government of the United States off the path of just powers and you divert it onto the path of violent usurpations. That is not your intent, I know. So pay attention to my points and answer them as if there was a possibility that they might contain some element of intelligence outside of your previous considerations. If in the 21st century this country has to go back and refine the Plutonium-239 that you once thought to destroy so that interplanetary craft can be propelled around the solar system, your efforts in the MOX

MD007

MD007-3**NRC Licensing**

Section 4.28 was revised to discuss the potential environmental impacts of operating Catawba, McGuire, and North Anna, the reactors that would use the MOX fuel. Commercial reactors in the United States are capable of safely using MOX fuel. In fact, several reactors in Western Europe have been operating successfully with MOX fuel for over 10 years. Although MOX fuel results in a harder neutron spectrum than LEU fuel, and thus a greater fluence of high-energy neutrons on the pressure vessel, this effect is well understood and has been shown to be within the capability of pressure vessels to withstand. It is the remaining operational life of reactors which formed the basis for DOE's selection process. The commercial reactors selected for the MOX approach include only those reactors whose operational life is expected to last beyond the life of the surplus plutonium disposition program.

Reactor vessel embrittlement is a condition in which the fast neutron fluence from the reactor core reduces the toughness (fracture resistance) of the reactor vessel metal. Analyses performed for DOE indicated that the core average fast flux in a partial MOX fuel core is comparable to (within 3 percent of) the core average fast flux for a uranium fuel core. All of the mission reactors have a comprehensive program of reactor vessel analysis and surveillance in place to ensure that NRC reactor vessel safety limits are not exceeded.

MD007-4**Waste Management**

Appendixes H.1.2.3, H.2.2.2, H.3.2.2, and H.4.2.3 provide estimates of the amounts of LLW that would be generated by operation of the MOX facility and describe the LLWs that would be at Hanford, INEEL, Pantex, and SRS, respectively. These sections also describe facilities that may be used to treat, store, and dispose of LLW. DOE would be responsible for disposition of waste generated by the surplus plutonium disposition program. As described in Sections 2.18.3 and 4.28.2.8, additional spent fuel would be produced by using MOX fuel instead of LEU fuel in domestic, commercial reactors. Spent fuel management at the proposed reactor sites is not expected to change dramatically due to the substitution of MOX assemblies for some of the LEU assemblies. Likewise, the additional spent fuel would be a very small fraction of the total that would be managed at the potential geologic

repository. Yucca Mountain, Nevada, is being studied as a location for a potential geologic repository for HLW and spent fuel. There are no plans to place LLW in Yucca Mountain.

MD007-5

Other

As discussed in response MD007-1, DOE makes every effort to respond to each comment in a fair and appropriate manner and regrets if previous responses were not satisfactory. DOE acknowledges that there may be future uses of plutonium 239 as the commentor suggests, but the growing threat of nuclear proliferation is of immediate concern, requiring that attention be focused on ensuring the safe, secure, long-term storage and disposition of surplus weapons-usable fissile plutonium. The activities proposed in this SPD EIS would implement U.S. policy on disposition and nonproliferation of surplus plutonium.

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program will be regarded as a gargantuan piece of technology mismanagement. No one is going to want to hear about how Yeltsin made you do it -- which I expect he will deny. Ms. O'Leary will not be there to take responsibility as she is not there even now.

(5) The Pollyanna vision is that the MOX Program will somehow take weapons grade Plutonium out of this universe so that no bad people can make any bad bombs with it anymore. That myth may wash at the Unitarian Church but it is much too dumb for a serious government to believe or make into a basis for policy. The MOX process only destroys 40% of the Plutonium by fissioning it. The rest is still in the spent fuel. The French who are experts in reprocessing hot spent fuel just like that could and would in ten days make a contract with the U.S. to trade us weapons grade plutonium for spent fuel bundles. The Russians know this, everyone does. So the whole Pollyanna vision premise for the MOX program is a hoax.

(6) Another hoax is the environmental impact statement process. Here's why. When they want to know if anyone thinks the MOX program is a good idea they go to the five towns in this nation where hundreds and thousands of people will be employed, and paid, and be able to send their kids to college based on their work making MOX pellets. Of course anyone is free to come to these meetings and speak at Hanford, or at Pantex, etc, but it is a very biased crowd that DOE knows is going to be there. They couldn't sell their case to a crowd that was on the level. They can only sell their case to the direct beneficiaries of the program. It would be like holding hearings on whether tobacco smoking is a good idea in Virginia. Now at the same time DOE makes sure that no information is released about which commercial nuclear power reactors are likely to get the MOX pellets. Why? Because that would tend to create a local constituency against the MOX program. People might say, "Well gee we have got enough to worry about with a nuclear reactor here we don't want to worry about taking plutonium out of nuclear bombs and putting it in the reactor." DOE says "We can't talk about what consortiums are interested in the request for proposals because that's in the RFP process". Usually the whole RFP process is public information as well it should be. But in this case it is secret information, and why? Could it be that DOE wants to have the fullest imaginable public input as long as they are singing to the choir at Hanford where people are going to make money out of MOX but DOE plans to keep the whole RFP thing secret and just slip a few MOX pellets into people's local nuclear reactors with no public input from anybody who might harm a danger or an injury or a cost from the MOX Program. If that selective process of revealing an collecting information doesn't make the EIS process a hoax, what would? It does. DOE is spending millions of dollars publishing millions of pages of EIS documents when in fact it is avoiding all genuine public comment from anybody that might have a reason to oppose this ill-starred scheme.

MD007

MD007-6**Nonproliferation**

It is true that in the MOX approach only a fraction of the plutonium would actually be consumed in the reactor; but the remainder would be an integral part of massive spent fuel assemblies that would meet the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. The spent fuel assemblies would be so large and radioactive that any attempted theft of the material would require a dedicated team willing to suffer large doses of radiation, and substantial equipment for accessing and removing the spent fuel from the storage facility and carrying it away. Recovering the weapons-usable plutonium from spent fuel could be done in a reprocessing facility, as suggested; but it should be kept in mind, however, that approximately 726 t (800 tons) of plutonium exists in spent fuel in the world today. If weapons-usable plutonium were transformed to plutonium in spent fuel, it would become only one part of a much larger inventory and would not present a significantly more attractive target for diversion than the existing plutonium in spent fuel.

MD007-7**General SPD EIS and NEPA Process**

To provide for public comment on the SPD Draft EIS, DOE conducted public hearings near the potentially affected sites and thus with the populations most directly concerned. Because it was known that not everyone wishing to comment on the proposed action could attend the hearings, DOE provided several other means for providing comments: mail, a toll-free telephone and fax line, and the MD Web site. All comments, regardless of how they were submitted, were given equal consideration.

The SPD Final EIS was not issued until the proposed reactors had been identified and the public had an opportunity to comment on the reactor-specific information. As part of the procurement process, bidders were asked to provide environmental information to support their proposals. This information was analyzed in an Environmental Critique prepared for the DOE source selection board prior to award of the MOX fuel fabrication and

GARY RESEARCH OPERATIONS RESEARCH
ROBERT GARY
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It appears that the MOX program is very much alive and well at DOE, more's the pity. I want these questions answered, and I'll do what it takes to get them answered. Intellectual engagement is my only strategy for derailing this program. I don't plan to sue, to bring administrative proceedings, to call for Congressional hearings, to go to the papers, or to write a book. I only plan to talk to you, to petition you for the grievances arising from my past questions that have not been treated with respect, and to request firmly but fairly that you answer my present inquiries fully and candidly. You could not go wrong by assisting the informed consent process and supporting the idea that the powers you exercise are just powers. Snubbing me is not going to work. If it were going to work, it would have done so in the first five or ten or fifteen years of my career as an anti-nuclear lawyer. On the other hand, if you can satisfy my objections with reasonable answers, as you have sometimes done in the past, I will cease from them. If I cease, there will be very few other objectors that could or would plausibly stand in your way.

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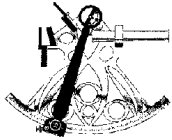
Sincerely,



Robert Gary
Attorney at Law

irradiation services contract. DOE then prepared an Environmental Synopsis on the basis of the Environmental Critique, which was released to the public as Appendix P of the *Supplement to the SPD Draft EIS* in April 1999. This *Supplement* included a description of the affected environment around the three proposed reactor sites, and analyses of the potential environmental impacts of operating these reactors using MOX fuel (Sections 3.7 and 4.28 of this SPD EIS, respectively). During the 45-day period for public comment on the *Supplement*, DOE held a public hearing in Washington, D.C., on June 15, 1999, and invited comments. Responses to those comments are provided in Volume III, Chapter 4.

GARY RESEARCH OPERATIONS RESEARCH
ROBERT GARY
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Gary Research
 Operations Research
 Robert Gary, MBA, JD, Principal Investigator
 2211 Washington Ave., Silver Spring MD 20910-2620 Tele: (301) 587-7147

Mr. Dave Knowlton
 Office of Fissile Materials Disposition
 U.S. Department of Energy
 1000 Independence Avenue, SW
 Washington, DC 20585

July 23, 1998

Dear Dave Knowlton,

You know I object to the MOX program and that I want DOE to be responsive to my questions, and that I am ready to make that happen. It seems fair to me that you should have a better understanding of my premises than you might have based on the very short record of correspondence between us. So in fairness I should be more complete in stating my objections and their foundations.

You have my letter of two days ago (additional copy enclosed) so you know that some of my issues pertain to the matters of embrittlement and low level waste. You also know that I am very concerned about possible misrepresentations by DOE concerning the source of the whole MOX idea which was integrated into the deal we made with Yeltsin. If there's a valid treaty I as an American am bound to respect it, but if Yeltsin is just a cover for a hairbrained scheme that needs to be questioned, I am bound to question it. As the appointees from the Natural Resources Defense Council well know and would all affirm, it is natural for the outsiders to become the insiders and one must always be cautious in the treatment of this day's outsiders lest they become tomorrow's insiders.

Prior to yesterday's letter, I have also raised an objection based on setting a precedent for international conduct. According to the U.S. Navy I am a fully certified and qualified international lawyer and here's what I want you to know. If we play about with plutonium in power reactors then Libya and Pakistan and Syria and Sudan and Patagonia will come around tomorrow and tell us about their sovereignty and how they have a right to do the exact same thing, and the next day it will be North Korea and Cuba. Think about the situation then. You say it's not your job. But you are the man who is going to do this deed. If you have no connection with it and no responsibility for it who does? Nobody? So we catch these guys red handed with plutonium and they say it's part of their MOX program and then what? The world, you think, will be far more secure with 15 bad

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MD149

MD149-1

MOX Approach

DOE acknowledges the commentor's opposition to the MOX approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in weapons again.

Specific domestic and international safeguards would be developed for the proposed surplus plutonium disposition facilities; these are the subject of ongoing sensitive negotiations between the United States and Russia. Because the surplus plutonium is weapons usable, the safeguards would include physical inventories as well as several active and passive measures to guard against theft and diversion.

DOE makes every effort to respond to each comment in a fair and appropriate manner. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

actor nations having the perfect cover story for their possession, transport, processing, and fabrication of plutonium in and around their nuclear reactors. You say IAEA has billions and trillions of inspectors that will straighten all of this out, separate the truth from the falsehood and undo the effects of our setting this stupid precedent. I say not. So we disagree. But you should know that the international law precedent is an issue with me even if the State Department has never thought about that, because there are more things in heaven and earth than the State Department has thought about or knows in its philosophy.

My ideas about space travel are truly far out. What I say is this. It is inconceivable that we could lift through the earth's atmosphere all the reaction mass needed for solar system development. If there is some valuable thing somewhere in the solar system we are going to need reaction mass from moon water and Europa water to get there, acquire it, and bring it back. But beyond that we are going to need the best energy source we know which is the hydrogen bomb. What's required is bombs the size of sandgrains made of plutonium-239, polonium, beryllium, and tritium, detonated by phased lasers at the gigawatt picosecond level. This is the heat source. The moon ice provides the reaction mass. Newton says you need both, and I'm telling you it is not possible to lift both through the atmosphere you can only lift the energy source and that has to be at least 50% plutonium 239 in sandgrain sized particles at the ends on fiberoptic laser conductors (like a hair with a grain of sand at the end). This goes into a block of ice and the whole assembly is detonated in a gatling gun arrangement at the rate of about 10 per minute to produce thrust.

Take away the plutonium and it doesn't work. You see plutonium is important for setting off tritium. This is the highest and best use of the stuff, not power reactors. The MOX program deprives the citizens of this country of a precious strategic mineral that they have paid for and taken risks to acquire. It takes away one of our opportunities in the 21st century.

Now, I recognize, and I did recognize when we spoke, that without plutonium you need uranium-235 to make a power reactor work, and that has to be refined at great cost and risk at the Y-12 plant at Oak Ridge, and that's not a minor consideration. So let's be candid on this one point. I know that the MOX program lends a whole new lease on life to the power reactor program in the U.S. I want the power reactors closed down based on their original lease on life and not the extended lease that the MOX program would give them. They are dangerous. They are dumb. They were an example of the same kind of "turning the bad into the good" technology mismanagement which is present in the MOX plan. What we have in the MOX plan is just a new Atomic Energy Act of 1957, and surprisingly enough the people pushing for it are not Yeltsin at all but the actual children of the scientists who pushed for the Atomic Energy Act of 1957. There are the real facts you see?

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MD149

MD149-2

MOX Approach

DOE acknowledges that there may be future uses of plutonium 239 as the commentor suggests, but the growing threat of nuclear proliferation is of immediate concern, requiring that attention be focused on ensuring the safe, secure, long-term storage and disposition of surplus weapons-usable fissile plutonium. The activities proposed in this SPD EIS would implement U.S. policy on disposition and nonproliferation of surplus plutonium.

MD149-3

MOX Approach

DOE acknowledges the commentor's opposition to the MOX approach. Uranium is mined, milled, and converted to uranium hexafluoride before it is enriched in the 235 isotope at either the Portsmouth or Paducah gaseous diffusion plants operated by the United States Enrichment Corporation. Uranium is no longer enriched at Oak Ridge. The MOX approach is not intended to affect the viability of nuclear power. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. The MOX facility would produce nuclear fuel that would displace LEU fuel that utilities would have otherwise purchased. If the effective value of the MOX fuel exceeds the cost of the LEU fuel that it displaced, then the contract provides that money would be paid back to the U.S. Government by DCS based on a formula included in the DCS contract. The commercial reactors selected for the MOX approach include only those reactors whose operational life is expected to last beyond the life of the surplus plutonium disposition program.


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ROBERT GARY
PAGE 3 OF 3

I want my questions answered not because I need information but because I want you to have the information, you and Ambassador Richardson, an intelligent man, a man with no record of managerial incompetence, quite the contrary, a man of proven good judgement. You answer the technical questions and let him make the policy decisions and don't be amazed if he comes out my way.

Jefferson wrote extensively on a concept that he had called the insolence of office. This is a feature that comes on bureaucrats who are just ordinary people but once elevated into office they really don't see why they should suffer the indignity of having the respond to mere citizens. I don't even have an affiliation with an environmental group, so I am the merest of citizens. But I want you to trust me and answer me fully, candidly, and in good faith. I sense that left to your own devices, you would do this. So please, just do it. Know that you are serving the nation at least as much by answering me as by forging ahead with the MOX program while disregarding my points. I've been doing this work for 15 years. I have 10 years of training in science and a 160 I.Q. I've put a lot of thought into the points I've presented and talked about them at some length with other thoughtful people including some at NRC. Please think of me as a colleague not an opponent. I have never gone to the press, never published a book or an article on this subject, never spoken to the Congress except on radioactivity as a medical issue. So give me the benefit of the doubt ---- and real answers.

Thank you for your time and consideration.

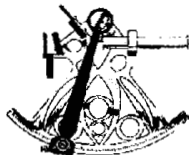
Sincerely,



Robert Gary, Esq.

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MD149



Gary Research
Operations Research
Robert Gary, MBA, JD, Principal Investigator
2211 Washington Ave. Silver Spring MD 20910-2620 Tele: (301) 587-7147

Howard Canter
(Attn: Mr. Dave Knowlton)
Office of Fissile Materials Disposition
U.S. Department of Energy
Washington, DC 20585

July 30, 1998

Dear Messrs Canter and Knowlton,

I have some additional objections and questions related to the MOX scheme based on my review of DOE/EIS-0283-D which Dave Knowlton was kind enough to send to me on July 22, 1998.

As you will recall from my compilation of letters The Case Against MOX dated September 1, 1997, there was strong objection to DOE/EIS-0229 page M-403 where the chance of a serious accident was rated as 1 in 10,000,000.

This is what I call Dr. Norman Rasmussen style statistics. You break the hazardous event down into 20 parts. Then you assign the smallest conceivable number that any group of lawyers at DOE might make a case for to each of the parts. Then you multiply the parts so that 1/1000th of 1/10,000th, of 1/50th, of 1/200th etc etc until you get a figure like 1 in 10,000,000 for the probability of anything going wrong.

This is false, you see? We have about 107 reactors in the U.S. and there are about another 50 in the world, so figure 200 reactors and nuclear plants of various kinds. This is 1998, and the nuclear programs got started in about 1957 so figure 40 years of experience with 200 reactors, that's 8000 reactor years. We've had five serious accidents that released substantial radiation offsite. So figure 5 in 8000 reactor years. There's no way that you can suggest that the chance of a nuclear accident that releases substantial radiation offsite if 1 in 100 Billion, or that the maximum exposure that anybody could be exposed to is 1 ten billionth of a dental x-ray.

Ask yourself this question. If a reactor blew up sky high every year for the next ten years and killed 100,000 people each time, how would your figures given in your EIS change? Now you either have an answer to this or your don't. If you are honest, I think you will tell me that the figures would not change. You would still say that a nuclear accident at a facility would be projected at one every 100 billion years -- right. And why? Well,

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FD108

FD108-1

Human Health Risk

DOE acknowledges that risk can be defined and measured in different ways. The risk assessment methodologies and assumptions employed in this SPD EIS are prepared and reviewed by qualified professionals and are also subjected to independent review. DOE believes that these methodologies and assumptions adequately predict the risk of reactor accidents. Section 4.28 was revised to discuss the potential environmental impacts of operating Catawba, McGuire, and North Anna, the reactors that would use MOX fuel. Calculations are performed with codes that have been used and verified repeatedly over a period of several years. These codes are also periodically updated and calibrated.

GARY RESEARCH OPERATIONS RESEARCH
 ROBERT GARY
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it's because your numbers have no relationship whatsoever to the real world or anything that has actually happened in the real world in the last 40 years. Your figures relate to hypothetical imaginings in the mind of Dr. Norman Rasmussen a person paid by the government to provide his version of the truth which reasonable persons of ordinary intelligence might well question.

Now comes the Department of Energy with its program that Dave Knowlton says is a \$2 Billion program and which I say is going to cost \$300 Billion. This program requires building a facility to create MOX pellets. This is a whole new venture for the USA. We don't have any plants like that. This would be a whole new kind of nuclear facility for us.

A concern that a reasonable person might have is, "What sort of health effects might be generated by such a novel venture?" "Could there be bad health effects?" "What is the likelihood of producing bad health effects, or maybe killing a few hundred thousand Americans by uptake of alpha emitting radionuclides, not that the government hasn't done this before, (see Johnsrud v Carter 620 F 2d 29 and Punnett v Carter 621 F 2d. 587).

Who carries the ball for the government on this point which no person of ordinary good sense would say is a detail. We look to Volume 1 Part B page 7-4 to discover that the Human Health Risk issue is handled by a person with a B.S. degree received in 1991.

Do I think that after collecting many trillions of dollars from U.S. citizens every year the government couldn't get a Ph.D. to say the same thing? No, I realize that in an "anything for money" world the government could get a veritable Niagara Falls of Ph.D.'s to say prosaically the same things that this very youthful Bachelor's degree holder has said, and I assume that he is operating in the best of good faith, and doing as he was taught in the best way he can. What I say is this. It's not adequate. DOE has no rational basis to do the calculations this way. There's not a trillionth of a billionth of a chance that one person could get a hundredth part of a dental x ray from this scheme and DOE knows it. This project is dangerous, and there's no way to know exactly how dangerous it is.

But consider this point. When Dr. Norman Rasmussen was setting the precedent for non-rational calculation of risks based on hypotheticals projected on hypotheticals projected on hypotheticals and with no regard whatsoever to actual experience in the real world, the one we live in, people were much more reliable than they are now. We live in a dysfunctional society. Over half of the jobholders in this country are marginally dysfunctional in one way or another. There's some part of their jobs that just doesn't get done, maybe they are slacking, or asleep at the switch, or corrupt nepots that got their jobs on a non-merit basis, or illiterates that weren't pick up in the training program, or one thing or another. Every serious nuclear accident so far has occurred by the dumbest and most

FD108

FD108-2

MOX Approach

It is true that MOX fuel has not been produced commercially in the United States. The fabrication of MOX fuel and its use in commercial reactors has been accomplished in Western Europe, and this experience would be used for disposition of the U.S. surplus plutonium.

Because cost issues are beyond the scope of this SPD EIS, this comment has been forwarded to the cost analysis team for consideration. The *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998) report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

FD108-3

Human Health Risk

This SPD EIS identifies and analyzes potential human health impacts that might result from construction and normal operation of proposed surplus plutonium disposition facilities. The Human Health Risk and Facility Accidents sections in Chapter 4 of Volume I discuss the effects on the public due to potential radiological releases. DOE policy places public safety above other program goals, and requirements have been established to protect the safety and health of the public. The protection of members of the public against accidents is considered by DOE in the design, location, construction, and operation of its facilities. Additionally, independent external oversight of activities is provided by the congressionally mandated DNFSB. The MOX facility and the reactors selected to use MOX fuel would be licensed and monitored by NRC.

FD108-4

Human Health Risk

Risk assessment methodologies, assumptions, and personnel qualifications are addressed in response FD108-1.

unpredictable of human errors. But none of those people are going to be working in the MOX plant right? The MOX plant is going to be build in the Dr. Norman Rasmussen Utopia where all persons perform their functions within predictable guidelines for incompetence, stupidity, malice, and criminality. That's the world where there's a billionth of a trillionth of a chance that anybody could ever be exposed to as much a one dental x ray's worth of ionizing radiation because of the MOX scheme.

I have tried to be reasonable with DOE. I have offered to come and present my views in person and be questioned on them by expert members of DOE's staff. I have submitted protests against this ultra-hazardous program for three years, to no effect. I have suggested and in fact outlined in detail a higher and better use for the Plutonium-239 in question here. Furthermore, I have always supported DOE when they were right. I have vigorously supported the Yucca Mountain Project. I have vigorously supported the vitrification or filled canister or immobilization alternative (the part of the dual track that doesn't involve making MOX pellets and putting them in commercial power reactors near American cities where lots of Americans live -- so far). As a person of reason I can only appeal to other persons of reason. If I were a person of influence, perhaps I could appeal to persons of influence, but that avenue is not open to me, due to circumstances of life.

DOE is a law unto itself. It does what is decided by DOE. It is presently in transition because of the appointment of an extraordinarily able person -- Ambassador Richardson -- to be its Secretary. There is now an opportunity for the technology mismanagement errors of the past two Secretaries to be rectified by the use of judgement and reason and good sense, which Bill Richardson has in abundance and has proven on 100 occasions. So let's do it. Let's make changes. Let's put the red light to bad ideas of the past and let's go ahead with what's good. Please answer my questions. Please meet with me and hear me out. Please redress my grievances.,

Sincerely,



Robert Gary
Attorney at Law

cc: Ambassador Bill Richardson
Senate Energy Committee
Secretary Carol Browner

FD108

FD108-5

Human Health Risk

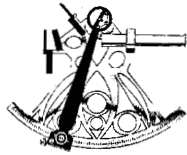
The analysis and data in this SPD EIS and the supporting conclusions of minor impacts and sufficient safeguards have been prepared and reviewed by qualified professionals and also subjected to independent review. Calculations are performed with codes that have been used and verified repeatedly over a period of several years. These codes are periodically updated and calibrated. In regard to the MOX facility, DOE intends to design, construct, and operate it in such a fashion as to provide a level of safety that meets or exceeds applicable Federal, State, and local requirements. The MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program.

FD108-6

DOE Policy

DOE acknowledges the commentor's support of Secretary Richardson, as well as interest and participation in the surplus plutonium disposition program. DOE's decisionmaking process takes into account all public input, and each comment received is given equal consideration.

GARY RESEARCH OPERATIONS RESEARCH
ROBERT GARY
PAGE 1 OF 3



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Howard Canter
 (Attn: Mr. Dave Knowlton)
 Office of Fissile Materials Disposition
 U.S. Department of Energy
 Washington, DC 20585

August 3, 1998

Dear Messrs Canter and Knowlton,

I have some additional comments that I would like you to take into account when you answer my letters on the subject of MOX of the past two months.

I have criticized the mathematics used to assess the probability of a serious escape of plutonium offsite from the proposed MOX plants (three types). This offsite migration of Pu-239 might be expected to cause radiogenic cancers, particularly if Dr. Goffman and Dr. Tamplin's "hot particle" theory is true as it applies to microscopic particles taken up into the lung a delivering an alpha dose over several years with high linear energy transfer and high ionization and thus high carcinogenic potential. This has been observed in people who were at NTS in the 50's even though I know the government will not admit this truth.

It would be fair and correct for me to proposed some alternative mathematics, so here is what I suggest. In 1940 when they built Hanford they came up with very detailed mathematics to show that it was safe. The isodose curves of alpha emitters around Hanford today speak for themselves and tell a different story. Whoops, well I guess that one wasn't safe. In the 1950's and 1960's when they built Rocky Flats and Pantex, again there were mathematicians with elaborate tables of numbers to suggest that the chance of any substantial leakage of alpha emitters offsite was 1 in 10,000,000, and such a thing might be expected to happen once every 10,000,000 years at the most. Well now it's only 40 years later, not 10,000,000 years, and there's been a fire at Rocky Flats and there have been major MUF's at Pantex, and Dr. Edward Martell, of Boulder Colorado tells me that the isodose curves around the Rocky Flats facility can be charted across several states eastward from the site. Whoops, I guess those weren't safe either.

So here's some alternative math for you. Please remove the math that's in the environmental impact statement and put this in its place. The probability of a major escape of alpha emitters from

ORD18

ORD18-1

Human Health Risk

Because a "serious escape of plutonium" from a MOX facility is not defined, it is assumed to be an amount that potentially causes LCFs among the population within 80 km (50 mi) of a site. Of all the MOX facility accidents analyzed with a scenario frequency of greater than 1 in 10 million per year (Appendix K), only the aircraft crash at Pantex and the beyond-design-basis earthquake at each of the sites would be expected to cause LCFs in the public. For the earthquake, there could be up to 24 cancer fatalities; for the aircraft crash, up to 27 cancer fatalities (Tables K-8, K-9, K-13, K-11, and K-19). The probability of a serious escape of plutonium off the site for these two accidents is quite small. The probabilities have been shown to be below 1 in 1 million per year for the airplane crash and below 1 in 10,000 per year for the earthquake, based on scientifically accepted prediction methods discussed in Appendix K.

The contention that the alpha particles would cause hundreds or even many thousands of cancers has no scientific basis. The potential impacts on people living in the areas of the candidate sites for the MOX facility have been calculated using models accepted within the scientific community. The MACCS2 computer program (Appendix K.1.4.2) was used with conservative input parameters. For example, it was assumed that the meteorological conditions at the time of the accident were so severe that they would only be exceeded about 5 percent of the time. The doses predicted by MACCS2 were converted to LCFs using the risk estimators discussed in Appendix K.1.4.3. These risk estimators are probably on the conservative side (i.e., they overpredict adverse health effects), but are accepted within the scientific community as reasonable, predictive values. The basis for the "high carcinogenic potential" is not accepted by the scientific community at large.

DOE acknowledges that past practices at its sites led to environmental contamination with some potential for health effects on local residents. However, no major adverse impacts to the public or workers as the result of operations at Hanford, NTS, Pantex, or RFETS—sites specifically cited by the commentator—have been demonstrated (refer to Sections 3.2.4 and 3.4.4 of this EIS for Hanford and Pantex and to Sections 3.3.9 and 3.8.9 of the

the proposed MOX plant(s) over the next 50 years if they are built, is around 95% to 100%. The probability that substantial quantities of Pu-239 will be airborne, be suspended, and be resuspended over the course of decades after those quantities escape from the proposed MOX plant is 100%. The probability that those particles will cause cancer, specifically lung cancer, but also soft tissue cancers in hundreds, perhaps thousands, perhaps tens of thousands of Americans living in several states over the 50 year period is substantial, which is to say more than 50% at the low end of the range and more than 10% at the high end.

The probability that the safety assurance calculations that were given in 1940 for the Hanford Plant were correct is zero. The probability that the safety assurance calculations that were given for the Rocky Flats and Pantex Plants were correct is zero. The probability that the tables of numbers in your current EIS for the proposed MOX plant, based on the same Rasmussen style approach, are correct is close to zero.

Beyond the infirmity of its math, the EIS fails on several other points which I should make more explicit as well. I see no designs for the facilities that will contain the low level waste over the next 250,000 years. But when those hot particles get into the environment, if they do, harm is done, you see? Those millions of cubic yards of low level wastes have to be guarded too, for 250,000 years, otherwise they will be acquired by terrorists or other malefactors, or they might be, creating a national security threat, you see? That's where your \$2 Billion project starts moving toward a \$300 Billion project. You know when they built Hanford they said that was going to be a \$2 Billion dollar project too, but we've spent \$50 Billion there in 60 years and our costs there have only just begun. See your EIS is not for the whole system, it's just for the parts you wish to present, and of course there are hundreds of pages going on and on about the sociological economic and racial breakdown of the people around the proposed plants. You've done a marvelous job from a civil rights perspective, but a terrible job from an engineering perspective, but you see plutonium is very unforgiving stuff, it may respond reluctantly to our best engineering efforts but it cares not one whit about civil rights or environmental justice or any of our other fuzzy notions about what counts in disposing of it.

I have raised another point that I fear you will not be sensitive to. This is a macro-project. It takes place over many decades. It has consequences reaching well beyond the next century. I have said that we have a problem in that connection arising from failures in our educational system and in the entire process of inculcating ethics into young people. Included here would be the work ethic in the Puritan sense, but also the competence ethic, the truthfulness ethic, the drug-free ethic, and the scientific ethic. Our particular society is not producing the kind of people it produced from 1945 to 1969. You may think you can shrug that off, but it is an important point. It suggests that we should be

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ORD18

Storage and Disposition PEIS for NTS and RFETS). A number of Federal and State agency agreements are in place to further reduce or eliminate sources of contamination, conduct additional research on health effects, and take corrective actions, as appropriate. DOE is committed to reducing any human health risks at its sites to ALARA levels, or levels agreed to with the appropriate regulatory agency. Any surplus plutonium disposition facilities would be designed, constructed, and operated to achieve these goals.

ORD18-2 General SPD EIS and NEPA Process

DOE acknowledges the commentor's concerns regarding LLW disposal. Chapter 4 of Volume I and Appendix H address impacts of the construction and operation of proposed surplus plutonium disposition facilities on the waste management infrastructure at the sites. DOE has existing arrangements for LLW disposal at all of the candidate sites. Generation of additional LLW by activities associated with surplus plutonium disposition is not expected to substantially impact these existing arrangements. Impacts at the waste disposal facilities that would be used are evaluated in the *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste* (DOE/EIS-0200-F, May 1997) and other site-specific NEPA documents.

LLW disposal facilities do not require special security to avert the diversion or theft of waste; the very low concentrations of special nuclear materials in waste (less than 100 nCi/g) would not be an attractive source of bomb-making material.

ORD18-3 General SPD EIS and NEPA Process

DOE acknowledges and shares the commentor's concern regarding the availability of highly qualified technical personnel. Accordingly, it has initiated a number of programs in schools throughout the United States to encourage mathematics and science literacy and to promote entry into technical fields. Fortunately, many highly qualified and dedicated people, of all ages, work in the DOE complex to support the surplus plutonium disposition program and other DOE missions.

GARY RESEARCH OPERATIONS RESEARCH
ROBERT GARY
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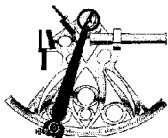
leery about setting in motion projects that will require a lot of people over a long period of time to perform just like the pros did in America's decades of technological and engineering preeminence. You say that the Europeans have lots of experience with this sort of technology, and I agree they do, but let's look at the Europeans, and particularly the French in this connection. Everybody that touches any control element in a French reprocessing plant is a graduate of Ecole Polytechnique. This means they are the cream of the French educational system, and they are all members of the military. The French may be to the left of us politically, but in this area they are a national security state. We stopped being a national security state when the Berlin Wall came down in 1989. Since then we have been a civil rights state. Our dedication to privacy of information is so intense that it overrides every other consideration for almost every job in the country, even jobs at the CIA if the Ames and Pollard cases are any indication of what goes on there. Not only are we not producing capable people to manage this technology over the next five decades, but we are not producing reliable people, or to be more precise people whose reliability is known or can be ascertained to a very high degree of certainty. You can't even trust your bag to a luggage handler at an American airport -- when they get it out of sight they take anything they find of value. You can't trust an engineer of a train to stay awake, or a truck driver to stay off pills, or an HMO or nursing home to be honest in rendering their services. We, the great "service economy" are in fact becoming a nation of negligent, sloppy, careless, untruthful, and often lazy people. This matters because good technology management requires a match between the tasks to be accomplished and the personnel who will perform those tasks, and plutonium is very unforgiving stuff -- you think your boss doesn't take any excuses -- but plutonium is the sternest taskmaster of all -- it takes no excuses. We are rapidly becoming a country of sea-lawyers who spend half our days making excuses for the things we didn't do, or didn't do right. This creates a mismatch. The mismatch creates a reliability issue on which you have no numbers. No numbers from the past will do (even if they were right, and they are not). New era, new people, new strengths, weaknesses, threats and opportunities for technology, but MOX plants are not among the realistic opportunities from this point looking forward with all the discernment that an informed, observant, intelligent mind can marshal.

I'm trying to clarify my issues to make them easy for you to address and deal with. If you understand my points deeply, you might be affected by them -- which, after all, is the intent of the EIS process. But even if you just want to defend MOX right down the line, at least you will be able to honestly and squarely address the gravamen of the positions I've taken in opposition.

Sincerely,



ORD18



Gary Research
Operations Research
Robert Gary, MBA, JD, Principal Investigator
2211 Washington Ave. Silver Spring MD 20910-2620 Tele: (301) 587-7147

2 Sept 1998

Howard Carter —

Enclosed is my memo of my meeting
of Messrs Nutton and Eggelman at
your office today.

I am deeply impressed by the
quality of these individuals.

I no longer oppose the MOX Program
You can count on my full support.

Sincerely,
Robert Gary

MD150

MD150-1

MOX Approach

DOE acknowledges the commentor's full support of the MOX approach. It is unclear what accident the commentor is referring to in his discussion of accident frequencies. However, it seems that the figure of 1 in 10,000,000 per year is from the *Storage and Disposition PEIS*, and not the SPD EIS. There are only three instances of a 1 in 10,000,000 per year figure being used in the Facility Accidents section of the SPD EIS. It is used to exclude SRS from assessment of consequences due to aircraft crash. This is in accordance with DOE-STD-3014-96, *Accident Analysis for Aircraft Crash into Hazardous Facilities*. It is used to exclude vault material from the assessment of aircraft crash consequences into the pit conversion and MOX facilities at Pantex. This is also consistent with DOE-STD-3014-96. Finally, it is used as a lower bound for the frequency range of total facility collapse as a result of a beyond-design-basis earthquake. The upper frequency bound for this accident is assessed to be 1 in 100,000 per year. Details on accidents developed for the SPD EIS can be found in Appendix K.

GARY RESEARCH OPERATIONS RESEARCH
ROBERT GARY
PAGE 2 OF 5

Memo of Meeting at DOE (1000 Independence Avenue)
2 September 1998 (1300 hours till 1400 hours)
between
Robert Gary, Esq.
and
Mr. J. David Nulton and Mr. Andra Cygelman (DOE)

1. On the issue concerning the origin of the MOX idea: The idea was around in DOE prior to the arrival of Bob Alvarez. It predated the Clinton Administration. The Russians actively selected the MOX idea over the canister and the bore hole ideas and said that it was the MOX alternative or no deal. So, we had the idea before the Clinton appointees got to DOE. The Russians knew about the MOX alternative in 1993. And they actively selected it as a basis for future negotiations to dispose of fissile materials. (This deals with interrogatories/requests 1-5)

2. On the low level waste issue it was pointed out that first the federal government out of the Treasury would pay for on-site storage of low level wastes from the MOX plants, which are actually projected to be a fairly small volume. Low level waste from the reactors would be paid for by a consortium of utilities (indirectly by the ratepayers or participating utilities, I suppose). A second area of concern about low level waste was its use as a toxic material in the hands of terrorists. DOE representatives pointed out that for that sort of use it would be far cheaper to buy plutonium on the black market than to purloin it from a low level waste dump and then purify thousands of cubic feet of wipes, and gloves, to try to recover microscopic amounts of Plutonium. Also mentioned in this context was my position that the MOX security benefit was a chimera because the French could trade us metallic Pu for spent fuel bundles anytime, and they would make a deal to do so on 24 hours notice. This position was refuted by the fact that the reprocessed metallic Plutonium would contain Pu-240 which makes it useable for reactors but unusable for weapons. Pu-240 has an early releasing neutron which in a weapon would cause pre-detonation and thus a nuclear fizzle or misfire. The isotope Pu-240 would not be separated from Pu-239 in the French reprocessing as it currently exists. So the idea that we could trade our way back to weapons grade metallic plutonium anytime we wanted is false. Thus the security benefits of the MOX program are authentic, and I was wrong about this. (This deals with interrogatories/requests 6-12)

3. On the interplanetary propulsion issue it was pointed out that any needs that might exist in the 21st or 22nd century for plutonium-239 for interplanetary propulsion could be easily satisfied by recovering it from spent fuel using the advanced technologies that will be available in those centuries. The issue of quelling the Russian security threat posed by loose plutonium on the world market exists right now and is an immediate, clear and present danger. Therefore, since the intent of the MOX program is primarily to quell this immediate threat, which if not

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quelled will result in grave environmental consequences, it does not behoove us to worry about the precious national asset aspect of plutonium as a propulsion modality in the 21st or 22nd centuries right now. With new future technologies, we will have what we need for those (space propulsion) purposes. Right now, we need to dispose of this fissile material so that the Russians will do the same and it will not be available on a world black market. In this connection I responded, "Why not just buy the plutonium from the Russians?" DOE said, "The U.S. environmentalists don't want additional plutonium coming into the U.S." I suggested that an exchange of cash for Pu would be appropriate and any amount up to an including \$100 Billion would be reasonable if it solved the problem. I also said that this would mean that we ramp up our MOX program, and it would make a Russian MOX program unnecessary (and a Russian sodium cooled breeder program impossible). [Note: I would have no objection to ramping up our MOX program if the program as practiced in the U.S. were truly safe. I certainly would have no objection to bringing Russian bought Pu into the U.S. or the expenditure of funds required to do that, if the deal really got rid of the problem once and for all]. This general discussion disposed of interrogatories/requests 13 - 20.

4. On the subject of the 1 in 10,000,000 figure we had a conflict that was not resolved at this meeting. I suggested that the figure be revised in the final version of the EIS to read 1 in 1000 chance of a serious accident with significant offsite distribution of Pu. DOE said that much had been learned since the accidents at Hanford, Pantex, and the several fires at Rocky Flats, so that even though those prior accidents tend to indicate a higher probability of a major leak from the proposed MOX plants, that fact is partially offset by the fact that the way we develop safety systems and countermeasures and computer models and facility designs is by having accidents and then designing them out of new facilities. The borax experiments at the Idaho reactor were mentioned in this context. These involved intentional destructive testing of nuclear reactors -- letting them blow up in the desert to learn how and why that happens. Such experiments are not done today, but the same principle applies, which is that safety systems get better as a result of integrating data from past accidents. I said that the 1 in 10,000,000 figure was too high in light of the failures at Hanford, Pantex and Rocky Flats, and that as a prudential matter it would be unwise for DOE to present that figure to the Senate, or try to justify it. The most self-admitted non-expert Senator or staffer would feel completely comfortable rejecting that figure in light of past experience. I also said that a 1 in 1000 figure might just get by using the "better technology, better computer models, more real world experience" argument. I also said that the math should explicitly reflect a Bayesian analysis, (which is apparently the same as updating their benchmark codes), and that it should be signed off on by someone at MIT with 20 or so years of experience teaching post-docs, rather than a holder of a B.S. degree received in 1991. The math, in short, should be

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less astonishing, more intuitively credible, more explicitly presented, and presented by an authority that people feel is highly reliable. I mentioned Dr. Kemeny as an example of such a person. (This part of the discussion disposed on interrogatories 20 - 34).

One document was provided by DOE titled FY 1999 Congressional Budget Request -- Program Mission and which contains the following sentence: "The Administration will not construct new facilities for disposition of U.S. plutonium unless there is significant progress on plans for plutonium disposition in Russia." (emphasis added)

This was interpreted by DOE to mean that although a day for day pound for pound correspondence between the two programs was not required, the two programs were to be on parallel tracks, moving forward and making progress in parallel. This means some sort of rough equivalence of actual plutonium disposition, not day for day, pound for pound, but step by step, beginning by beginning type of parallel progress. Specifically it does not mean that the U.S. goes ahead with a facility in exchange for a Russian promise to go ahead with a facility (or otherwise dispose of their plutonium i.e. by selling it to us, for example). In other words the Russian progress is not "progress on plans" in the sense of progress in making plans, it is "progress on plans" in the sense of progress on implementing existing plans. [Note: It might be helpful to re-word the document, and future documents so that this potential semantic ambiguity is eliminated and replaced by crystal-like clarity]. The next sentence talks about "attaining reciprocal actions on the disposition of Russian surplus plutonium" (emphasis added)

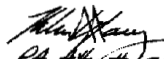
The meeting with DOE was a success in the sense that it reduced five broad groups of objections down to one remaining objection (to the 1 in 10,000,000 figure). DOE's representatives left a strong impression of integrity, knowledge, and policy expertise. I was also impressed by the gravity of the consequences of not going ahead with MOX and by the "time is of the essence" aspect of the situation, which is obviously magnified by current developments in the past 10 days in Russia. DOE has basically converted an opponent to a supporter of the MOX program with the sole caveat that they clean up their numbers on the probability of a serious accident/offsite leak. It would be a good thing if the final version of the EIS said 1 in 1000, but DOE actually delivered a technology on the ground with a probability of 1 in 10,000 or 1 in 100,000. That way they say less but do more, and are the real good guys. I believe this is achievable. If so, it would be far better to scale the MOX program up, or extend its period of operation so that it could dispose of all U.S. and all Russian excess plutonium rather than embark on a world where the Russians start their own MOX program for light water reactors, or an even worse world where the Russians use their Plutonium in sodium cooled breeder reactors. It would be entirely fair for DOE to lay out the risks of those alternatives, and the risks of

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having Russian plutonium go on an international black market as part of the presentation on MOX and its relative merits. Whatever risks are present in MOX cannot be rationally assessed in isolation, but only in relation to the risks of the alternatives. The EIS document should be expanded to present these allelic risks even though they are not required to be presented in an ordinary EIS. This case is different. We are not the only actors in this environment, and our MOX program has as its basic purpose the control of the actions of one of the other actors whose actions might gravely affect the environment. Because of the unique circumstances in this case, the EIS should explicitly incorporate the full panoply risks and specifically the avoided Russian risks which acceptance of the U.S. MOX program entails. This would lay a foundation for the expansion or extension of the MOX program in the event that a Cash for Pu transaction with the Russians can be arranged. [Note: Time being of the essence, it might be reasonable for the President to open negotiations for such an exchange while he is in Moscow today, or in the diplomatic exchanges that will occur over the next 30 days implementing the statements made by President Clinton while he is in Moscow i.e. "The U.S. plans to give you money", or words to that effect -- the Russians have to stay on the course of free market reforms and sell their Pu to us for cash. They get what they need. We get what we need. MOX goes forward -- one program for all the planet earth, done by people who know what they are doing, and have been screen in a Personnel Reliability Program at the Rickover level based on a national security state not a civil rights state. Congress has to pass legislation that permits applicants to the MOX program to waive away all of their rights under all of the civil rights laws -- just like it was in Rickover's Navy. This danger of personnel unreadiness needs to be taken seriously. We don't have the same sort of people in the U.S. today as we had in 1945-1969. The culture has changed. MOX requires, not merely good people, but reliably competent people. Not merely reliably competent people, but people whose reliable competence can be established and verified to a very high degree of certainty in advance. This is impossible in a privacy oriented civil rights state. In other words if you want to build down the dangerous surplus plutonium left over from the days of the U.S. as a national security state, you need to create an enclave of people who are transported legislatively back in time to the rules, habits, laws, and rights of persons living at an earlier time -- say 1950. Only thus can the MOX program avoid the effects of modernity. Even thus recruitment will be extraordinarily difficult and hazardous from the perspective of making a reliability assessment error. The CIA and Naval Academy have already experienced this. Secretary Cohen is an expert on the subject, and I think would verify and confirm what I say here.

I affirm that this document, created from memory one hour after the meeting, is true and correct to the best of my knowledge, information and belief.


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Memo for David Nulton at DOE
 Reiterating in writing some of the more important points from our
 FONCON this day September 18, 1998 approx 1500 hours
 From Robert Gary, Esq.

1. The EIS documents currently being produced on the MOX Program are in full regulatory compliance with the rules and statutes governing such documents but they are inadequate nonetheless.

2. NEPA and the entire body of EIS regulations came into existence during a period in American history when environmental impacts could be considered on a project centered and national basis. We are now living at a time when environmental impacts must be considered on a problem centered and global basis. There is no issue where this is more clear than the issue of controlling weapons grade plutonium worldwide. Accordingly, where an international agreement focuses on the global problem of black market plutonium and the probable bad environmental and human health consequences from failure to manage the plutonium on a global basis, it is highly appropriate for the Environmental Impact Statement to give communications primacy to this fundamental reality. Specifically, it is legally, morally, and politically correct to outline in the plainest terms the environmental consequences of not solving the problem on a global playing field. In particular it is correct to portray the international black market in weapons grade plutonium, the sellers, the entrepreneurs, the buyers, and the ultimate users. Furthermore, it is highly appropriate and prudent to present in some detail the environmental and health effects likely to be produced by plutonium explosive devices in the 1 to 100 kiloton range if detonated in Washington DC, New York, Chicago, Dallas, San Francisco, Boston and Los Angeles. To permit ancient NEPA regulatory provisions designed to prescribe the minimum content of EIS documents several decades ago to be a limit and a maximum content for an EIS on today's MOX Program is to disenable the DOE from successfully marketing this vital program through its most prominent and most widely read communications device. If it is not an actual Federal crime to present DOE's strongest arguments and reasons in support of the MOX program in the EIS then it seems to me it is a moral, logical, and policy imperative to do so.

3. Persons from Greenpeace or other environmental organizations who have no responsibility of any kind except to salve their own sense of *moral* righteousness must be presented in the clearest terms with the fact that MOX is a program for world peace, and that peace is good for the environment and that nuclear detonations in the atmosphere are bad for the environment. Blowing up New York City would be a bad thing for the entire ecological web in the United States and other places. Owls, whales, and snail darters would be killed. The false and artificial distinction between what happens in the USA and what happens on planet Earth is one that environmentalists should not make for two reasons. First, it contradicts their own ethics,

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General SPD EIS and NEPA Process

DOE acknowledges the commentor's views on the rationale for the surplus plutonium disposition program and the value of a global focus in related communications. Section 1.2 discusses the purpose of and need for the proposed action, including some of the international aspects of surplus plutonium disposition. It is not the purpose of this SPD EIS to market DOE's program for the disposition of surplus plutonium. The NEPA process does provide an important mechanism for obtaining public input prior to disposition decisions. In compliance with NEPA and the rules that implement that act, DOE prepared this EIS by obtaining comparable data on all of the alternatives, analyzing the data in a consistent manner using established procedures, and presenting the results in a full and open manner.

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very plainly stated since the days of Rachel Carson and Silent Spring. We have been talking for years about the use of pesticides like DDT in South America. South America is not part of the USA. And what about the rain forests in Brazil? Has Greenpeace taken the position that it's only what happens to rainforests in the USA that they are concerned about -- they don't care what happens in Brazil, or have they taken some other position? The record is clear. Second, the environmentalists are demonstrating the "ethics of intention" rather than the "ethics of responsibility" when they try to distinguish between plutonium in the USA and plutonium in Russia. They think that if their intentions can be construed as *good* from some perspective, then there is no responsibility that attaches to the policy implications and consequences of what they say. This is a sort of mystical approach to the management a pressing global life and death problem. It is the sort of approach taken by persons who do not expect to be listened to, and should not be.

4. After January of 1999, when the new Congress takes their seats, there will be very few people on Capitol Hill who will pay the slightest attention to Greenpeace or any environmentalists. Therefore DOE should not worry about trying to convert them to a pro-MOX position. MOX is a program for peace. Peace is good for the environment. Those messages need to be taken directly to reasonable people and they can be, but only by becoming much more creative with the EIS communications opportunity. The environmentalists need to be put to their proofs. They should have to show that the risks of the MOX program (if done entirely in the USA, as I suggest) are greater risks to human health and environmental integrity than the risks inherent in an uncontrollable international black market in weapons grade plutonium (Pu that is 96% free of Pu-240, Pu-241, and Pu-242). We know that terrorists have planted bombs at the World Trade Center and at the Murrah Federal Building. We know that the Lincoln Tunnel was also on their target list. What would the environmental consequences be if one of those bombs were say a 10 kiloton device? That information has a right to be in the EIS for the MOX program. Why? Because it is your best and strongest argument for the program. It tells the real story of why you want to do the program. Readers of the EIS have a right to get the real story of why you want to do the program. Decisionmakers have a right to get your first line argument, your varsity presentation, your alpha team rationale, not some watered down, desultory, detail driven, infodump created by blind, uncreative, and rigid adherence to what are imagined (by lawyers) to be the technical requirements of NEPA and other statutes governed EIS document. If it's not a crime for DOE to put out an effective and success-oriented document, then it's a crime against reason not to do so in this case. The fate of the world hangs in the balance. Furthermore, I don't think you should confine yourselves to documents. I would put a major effort into a 30 - 45 minute video designed for an informed senior staffer on the Hill (who has no time or attention to give to a 5000 page EIS). I would make the video a formal part of the EIS. I would allocate 5 or 10

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General SPD EIS and NEPA Process

DOE acknowledges the commentor's views on the environmental rationale for the surplus plutonium disposition program and the need for effective public education in that connection. Chapter 4 of Volume I presents the potential environmental impacts of each alternative for accomplishing the proposed action.

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minutes in the video to all the stuff that's in the existing EIS documents (ineffective in terms of advocacy). The balance of the time would focus on the important information concerning your real and best reason for wanting the MOX program. What does Bin Ladden look like? What sort of ideas are in his head. What about Saddam Hussein, and Muhammar Quadaffi? That sort of context is required in order to appreciate the significance of an international black market in weapons grade Pu-239. Once the predicament has been presented, the MOX program becomes evident as the most feasible and most reasonable way to prevent the predicament from becoming a case of mass casualties. You should show pictures of what mass casualties look like -- maybe some of the ABCC black and whites taken after Hiroshima and Nakasaki. Now you show that although the MOX program contains its own risks and costs, those risks and costs are far smaller than the risks and costs of not going ahead with it. This sets up the metes and bounds of any rational discourse about MOX. People who want to oppose you must show that they have a better and more viable and less risky idea -- something more cost effective --- something more ethical. If they can't do that, they have no traction in opposing MOX. Senators will not be attracted to mystical arguments based on feelgood rationales if they can compare such arguments to your best argument. Congressmen want to live. Policymakers, as a rule, want what's best for the USA. Their more intelligent senior staffers are the same way. Anybody living in Washington DC is bound to have some visceral connection to your best argument, if only you put it forward, as you did with me.

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DOE must advocate effectively for this worthy program. It must disenfranchise itself from the advice of lawyers whose only priorities are narrow bureaucratic compliance with outdated regulations unrelated to this unique program and its vital global goals. You need Mr. Ken Burns not Mr. Can't Do Bureaucrat. You need to communicate, not merely comply. EIS is your opportunity to do that. The foundation that has been laid so far is not wasted. You've gotten the narrow compliance part out of the way. Now it's time to put your real point across. If you could do it with me in 90 minutes, you can do it with any rational person, no matter how pro-environment or anti-nuclear they start out.

I recognize how intelligent you and Andre are, and how moral. I earnestly trust you will take to heart the things I say. Take them up, will you please, with Mr. Howard Canter. Given the opportunity, I would do more than talk about these things, I would make them happen.

Signed,


Robert Gary, Esquire

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**Comments of the Institute for Energy and
Environmental Research (IEER) on:**

**The Department of Energy's
*Surplus Plutonium Disposition Draft
Environmental Impact Statement*
July 1998
DOE/EIS-0283-D**

Anita Seth, Global Outreach Coordinator
Hisham Zerriffi, Project Scientist
September 1998



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Background/Introduction

At the end of the Cold War, the United States and Russia face an unprecedented and unexpected problem: surpluses of plutonium and highly enriched uranium (HEU), the two key materials used to make nuclear weapons.

The more difficult of the two is the surplus plutonium and the question of converting it into forms not usable for making nuclear weapons. The two most technically advanced options to meet the spent fuel standard are to immobilize the plutonium in a ceramic or glass form with high level radioactive waste to form a radiation barrier to theft or to create nuclear reactor fuel with it and use it in a commercial reactor (MOX). It should be noted that the MOX option does not "burn" the plutonium destroy it. While some of the plutonium will be fissioned in the reactor, plutonium is also created through neutron irradiation of the uranium which forms the bulk of the reactor fuel (this occurs in reactors fueled with low-enriched uranium as well). In fact, in some cases the plutonium left in the spent fuel is greater than the amount put into the reactor.¹

The commonly-used yardstick to measure the resistance to theft and diversion of the final form of plutonium after disposition is the so-called "spent fuel standard." This criterion was identified by the National Academy of Sciences in their 1994 report, and means that the plutonium should be as inaccessible to theft, diversion, and re-extraction as plutonium in stored commercial low-enriched spent fuel. Both immobilization and the MOX program were considered by the NAS to have met this standard. However, the "spent fuel standard" inherently assumes that the plutonium will remain in spent fuel (or whatever form it has been placed into)—that is, that it be slated for geologic disposal. Taking into account the desire of Russia to reprocess its spent fuel and the risk of creating a plutonium economy in both countries, it is clear that immobilization is a better option for meeting the standard.

Minatom has stated very clearly on numerous occasions that it intends to reprocess spent MOX fuel, rendering the "spent fuel standard" effectively meaningless over the long-term. The U.S. appears to be ready to allow Minatom to reprocess spent MOX fuel from the plutonium disposition program. The joint report notes that "...Russia will ultimately recycle any plutonium left in the [MOX] fuel. The U.S. objective of plutonium disposition is satisfied when the isotopic composition of the weapons-grade plutonium have been altered by irradiation, the fuel attains a significant radiation barrier, and the fuel is stored for several decades before reprocessing."²

DOE's Proposed Action

The Department of Energy analyzes 23 different alternatives in its *Surplus Plutonium Disposition Draft Environmental Impact Statement* to meet the spent fuel standard. The DEIS analyzes the disposition of a nominal 50 metric tons of plutonium (33 tons is contained in plutonium pits from weapons or in a metal form relatively free of

¹ See Table 6-1 of National Academy of Sciences, *Plutonium Disposition: Reactor-Related Options*, (Washington DC: National Academy Press, 1995).

² Joint study, p. WR-36-37.

MD237-1

Alternatives

DOE acknowledges the commentors' support for the immobilization-only approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in weapons again.

It is true that Russia plans to reprocess the spent fuel resulting from the irradiation of MOX fuel from its surplus weapons-usable plutonium. However, the U.S. position in negotiations with the Russian government has been that Russia should not reprocess the MOX spent fuel until all of their surplus plutonium meets the Spent Fuel Standard. In addition, the future agreement between the United States and Russia would require that any Russian MOX spent fuel reprocessing program be conducted under the oversight of IAEA which is charged with verifying compliance with international nonproliferation policies.

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impurities while the rest is in various other forms). The various alternatives analyzed fall into two basic categories: Immobilization and Hybrid Approaches.³

The Immobilization approaches would encase the plutonium (after initial processing to render it into a suitable form – plutonium dioxide) in ceramic discs which would be placed in steel cans. These cans would then be vitrified (encased in glass) along with highly radioactive waste currently being vitrified as part of DOE clean-up operations. Placing the plutonium in a ceramic mixture and then encasing it in glass makes it difficult to extract (in fact, there is less experience with extracting plutonium from a glass or ceramic matrix than from spent fuel). Encasing it in glass which contains highly radioactive waste makes it resistant to theft as the radiation dose near the glass logs would be very high. It has already been determined that this method of immobilization would meet the spent fuel standard.

The hybrid approach would use the immobilization process for a portion of the plutonium surplus and would manufacture the rest into nuclear power reactor fuel for use in a commercial nuclear reactor. Ordinary reactor fuel used in U.S. light water reactors contains uranium oxide slightly enriched in the isotope Uranium-235 (usually about 3-5% with the rest of the Uranium oxide being mainly U-238).⁴ The DOE proposes to produce fuel which would replace the 3-5% U-235 with approximately the same percentage of plutonium oxide. Since the fuel would now be a mixture of plutonium oxide and uranium oxide it is called MOX (Mixed OXide).

The DOE's preferred alternative is a so-called hybrid approach. Approximately 33 metric tons of plutonium would be manufactured into MOX fuel. These 33 tons are currently in the form of weapon pits or metals mainly free of impurities and DOE believes these materials would meet the high purity standards required of MOX fuel. There are, however, some impurities in both the pits and clean metals which would need to be removed (namely gallium). The other 17 metric tons of material is in a variety of other forms. While they contain weapons-usable plutonium, these materials would require significantly more processing to meet the MOX requirements according to the DOE. Therefore, this 17 tons would be immobilized.

The preferred alternative would involve construction of a Pit Disassembly and Conversion Facility (PDCF) at either Pantex or the Savannah River Site. This facility would take apart the weapons pits, remove tritium if necessary, convert the plutonium to an oxide form and process it to remove gallium and other impurities. The PDCF would also convert the "clean" metal. The plutonium dioxide would then be transferred to a MOX fuel fabrication facility to be constructed at SRS (transportation would be either inter-site or intra-site depending on whether the PDCF is built at Pantex or SRS). Immobilization of the other 17t of plutonium in ceramic would occur at a new facility at SRS and the Defense Waste Processing Facility at SRS would be used for vitrification in high-level waste.

³ The reason for the large number of alternatives is differences in siting and whether new facilities would be constructed for some parts of the mission or whether existing facilities can or would be utilized.

⁴ Natural uranium contains about 0.711% U-235, 0.005% U-234 and the rest (99.284%) U-238. The enrichment of the U-235 is necessary in order for light water reactors to sustain a chain reaction.

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According to the DOE:

Pursuing the hybrid approach provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Pursuing the hybrid approach also sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus weapons-usable plutonium, as quickly as possible, in an irreversible manner. The construction of new facilities for the disposition of surplus U.S. plutonium would not take place unless there is significant progress on plans for plutonium disposition in Russia. (p. 1-9)

It is, therefore, apparently the Russian view of plutonium as a "national" treasure and their desire to use it in reactors which is driving the United States to use the MOX option. This rationale will be examined further below.

The decision by the DOE to pursue a hybrid approach ignores the clear advantages offered by immobilization and the serious consequences of initiating a MOX program in the United States. The DEIS also has clear deficiencies which need to be addressed including the lack of information on crucial components of the program. These will be outlined below after an overview of the relative costs and benefits of Immobilization versus MOX and a critique of Russia's role in the decision is presented.

MOX versus Immobilization

There are a number of technical difficulties associated with MOX that DOE has not adequately addressed. First, is the issue of Russian reactors, which is discussed in more detail below. Second, US MOX plans envision the large-scale use of weapons grade plutonium in light water reactors for the first time. While MOX proponents claim that European MOX programs provide ample experience for the US program, that experience is only using reactor-grade plutonium. Furthermore, full MOX cores, which are assumed in DOE's analysis, have never been used on a large scale.

The Record of Decision for this Environmental Impact Statement will establish whether the United States pursues an immobilization only approach or a hybrid approach mixing both immobilization and MOX. There are a number of factors which DOE must consider in making a decision, including environmental consequences, cost, schedule for disposition, and proliferation consequences. Each of these major factors will be discussed below. It should be noted, however, that one of the original purposes for pursuing a hybrid approach was to have a back-up technology in case there were problems implementing either immobilization or MOX. However, MOX cannot handle the full spectrum of plutonium requiring disposition. Therefore, this rationale is severely undercut by the fact that immobilization is the only option capable of processing 17 of the 50 metric tons. Given the indispensability of the immobilization option, it would appear more prudent to concentrate energy and resources into this alternative. Back-up should be pursued by developing more than one immobilization option.

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MD237-2

MOX Approach

The operational experience for electricity generation from MOX fuel in Europe is relevant to the proposed use of surplus weapons-usable plutonium in U.S. domestic, commercial reactors. While plutonium from warheads may never have been used in MOX fuel, its behavior in fuel is essentially the same as that of non-weapons-origin plutonium. Plutonium from the different origins is chemically indistinguishable. The difference is isotopic: there is less plutonium 239 in non-weapons-origin plutonium. MOX fuel, regardless of the origin of the plutonium, has a higher flux than LEU fuel, and thus can cause more wear on the reactor than LEU fuel. However, this is taken into account when developing fuel management strategy.

The proposed action assumes that MOX assemblies would be used for a partial, not full, core. Several U.S. commercial reactors are designed to use MOX fuel, and others can easily and safely accommodate a partial MOX core. Core load and safety analyses would be performed, and an NRC license amendment approved, before MOX fuel was introduced into any reactor. Section 4.28 was revised to provide reactor-specific analyses and discuss the potential environmental impacts of using a partial MOX core during routine operations and reactor accidents.

MD237-3

Alternatives

DOE has identified as its preferred alternative the hybrid approach of using both immobilization and MOX fuel fabrication. DOE has been studying, evaluating, and testing immobilization technologies for some time, and does not believe that it is necessary to develop more than one immobilization technology. DOE is confident that current development resources will lead to timely implementation of the can-in-canister immobilization technology.

The reasons DOE is pursuing the hybrid approach are addressed in response MD237-1.

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Proliferation/Disarmament

DOE's choice of disposition technologies does not take place in a vacuum, and has a great effect on the debate about the worth of commercial plutonium technology around the world. By relying on MOX for a large part of its disposition program, DOE strengthens the arguments of the plutonium lobby world-wide.

The DOE's emphasis on MOX brings it into partnership with European commercial plutonium concerns like BNFL, Cogema, Siemens, and Belgonucleaire, whose interest is in promoting continued use and production of plutonium, not in plutonium disposition. By supporting these companies with contracts at a time when they are coming under increasing scrutiny and criticism at home, DOE prolongs their survival and severely undermines the long-standing US position against commercial use of plutonium.

The most serious proliferation consequence of a MOX disposition is the acquiescence and even aiding of Minatom in its pursuit of a long-term plutonium economy. A MOX disposition program would provide Minatom with a MOX fuel fabrication facility, the currently missing link in its plutonium infrastructure.

As DOE is well aware, prior to U.S. encouragement Minatom had not supported a program of loading MOX in existing light water reactors. Minatom has instead been a proponent of storage of plutonium with a view to its eventual use in "advanced" reactors and breeder reactors. DOE has argued that moving Minatom from a position of developing breeder reactors to one of using plutonium in light water reactors represents progress in non-proliferation. This is ironic on two fronts. First, it relies on a differentiation between "weapons-" and "reactor-grade" that the US has implicitly rejected with its policy against commercial plutonium development. Second, it takes Minatom from a policy with very little likelihood of success, given the consistent failure of breeder technologies around the world, to a position much more likely to lead to increased use, transportation, and perhaps even production of plutonium in the short term.

In the name of disposition, the US seems not only to be relinquishing its decades-old policy of not using plutonium in commercial reactors, but aiding and abetting Russian plans to build a plutonium economy. The US will not oppose Russian reprocessing of the MOX fuel fabricated from surplus weapons plutonium, provided that it occurs only after several decades, when the disposition program is complete. DOE has argued that a several-decade moratorium on the re-separation of plutonium from spent MOX fuel is a sufficient safeguard against proliferation. But it won't matter whether MOX spent fuel is reprocessed now or in a few decades. So long as the infrastructure for MOX fuel production and reprocessing is created and maintained, there will be plenty of other spent fuel to reprocess and plenty of surplus plutonium to occupy MOX fuel fabrication plants in the meantime.

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MD237

MD237-4

DOE Policy

The use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. DOE conducted a procurement process to acquire MOX fuel fabrication and irradiation services. The selected team, DCS, would design, request a license, construct, operate, and deactivate the MOX facility as well as irradiate the MOX fuel in domestic, commercial reactors. However, these activities are subject to the completion of the NEPA process.

Consistent with the U.S. policy of discouraging the civilian use of plutonium, a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation would be a once-through cycle with no reprocessing. Furthermore, selection criteria for the reactors stipulates that they have sufficient operating life to complete the mission.

MD237-5

Nonproliferation

The reprocessing of MOX spent fuel in Russia is the subject of sensitive negotiations between the United States and Russia and is beyond the scope of this SPD EIS. The *Joint Statement of Principles* signed by Presidents Clinton and Yeltsin in September 1998 provide general guidance for achieving the objectives of a future bilateral agreement to disposition surplus plutonium in the United States and Russia. The principles include the acceptance of technology for transparency measures, including

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Thus, the net result of the plutonium disposition program will have been for the United States to subsidize the very thing that it should be against: an infrastructure for a plutonium economy in Russia. A similar infrastructure would be created in the United States since a MOX plant would be built and since the U.S. appears increasingly reluctant to shut down its decades-old military reprocessing plants at the Savannah River Site in South Carolina.

5

Environmental

The DOE itself has already recognized that immobilization alone is preferable to the hybrid approach from an environmental standpoint. In the Record of Decision for the Storage and Disposition of Weapons-Usable Fissile Materials final Programmatic Environmental Impact Statement the DOE states:

For normal operations, analyses show that immobilization would be somewhat preferable to the existing LWR and preferred alternatives, although these alternatives, with the exception of waste generated, would be essentially environmentally comparable. Severe facility accident considerations indicate that immobilization options would be environmentally preferable to the existing reactor and preferred alternatives, although the likelihood of occurrence of severe accidents and the risk to the public are expected to be fairly low. (p. 10, emphasis added)

The hybrid approaches would require at least one extra facility and possibly even two. Under the hybrid option the three facilities would be a Pit Disassembly and Conversion facility, the MOX Fuel Fabrication Facility, and the Immobilization Facility. Under Immobilization only alternatives, the MOX FFF would be eliminated. Furthermore, it appears technically feasible to design a single facility which could undertake both pit disassembly/conversion and immobilization (see below) and should have been one of the options analyzed. The environmental advantages of a reduction in facilities and operations have not been fully analyzed since a single facility alternative is not included in the DEIS. Furthermore, if the DOE decides to use the Defense Waste Processing Facility at SRS for vitrifying the cans in high level waste, the incremental environmental impacts of immobilization may be reduced further. There are no existing facilities which could be taken advantage of for MOX fuel fabrication.

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Due to the high purity requirements of MOX fuel the conversion of plutonium pits and clean metal for MOX require additional processing steps which would be unnecessary for immobilization. At the moment the DOE plans to construct a conversion facility which would remove gallium (a major concern in MOX fuel) using a dry process.⁵ If the dry process, which is still at the laboratory and pilot stage, does not meet the impurity removal specifications, the DOE proposes using an aqueous process it calls plutonium polishing. The analysis in the DEIS assumes these processes would occur even if the immobilization alternative is chosen, despite the fact they would be unnecessary. Therefore, the DEIS does not allow one to fully compare the environmental impacts of the MOX and immobilization options. A more detailed discussion of plutonium polishing and the DOE analysis of this process is presented below.

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⁵ See *Science for Democratic Action*, Vol. 5, No. 4 for more on the gallium problem.

appropriate international verification measures and stringent standards of physical protection, control, and accounting for the management of plutonium. The United States would not subsidize reprocessing capabilities or facilities in Russia.

The policy of discouraging the civilian use of MOX fuel has not changed as addressed in response MD237-4.

MD237-6

Alternatives

DOE acknowledges the commentor's concern over the greater cost, economically and environmentally, of the hybrid approach than the immobilization-only approach to surplus plutonium disposition. DOE believes its preference for the hybrid approach has a sound basis.

Section 2.3.1 of the SPD Draft EIS explained that a range of 23 reasonable alternatives remained after evaluating over 64 options against three screening criteria: worker and public exposure to radiation, proliferation concerns due to transportation of materials, and infrastructure cost. These 23 reasonable alternatives were evaluated in the SPD Draft EIS. Two separate facilities were combined in this SPD EIS to form the immobilization facility from those evaluated in the *Storage and Disposition PEIS*. No other combination of facilities was considered reasonable. After the SPD Draft EIS was issued, DOE eliminated as unreasonable the 8 alternatives that would involve use of portions of Building 221-F with a new annex at SRS for plutonium conversion and immobilization, thereby reducing the number of reasonable alternatives to the 15 that are analyzed in the SPD Final EIS. This SPD EIS analyzes the potential environmental impacts associated with implementing the proposed surplus plutonium disposition activities at the candidate sites including alternatives that would take advantage of DWPF at SRS. The results of these analyses, presented in Chapter 4 of Volume I and summarized in Section 2.18, demonstrate that under either the hybrid or the full immobilization approach, the activities would likely have minor impacts at any of the candidate sites.

The reasons DOE is pursuing the hybrid approach are addressed in response MD237-1.

MD237-7**Plutonium Polishing and Aqueous Processing**

Based on public comments received on the SPD Draft EIS, and the analysis performed as part of the MOX procurement, DOE decided to propose plutonium polishing as a component of the MOX facility to ensure adequate impurity removal from the plutonium oxide. Appendix N was deleted from the SPD Final EIS, and the impacts discussed therein were added to the impacts sections presented for the MOX facility in Chapter 4 of Volume I. Section 2.18.3 was also revised to include the impacts associated with plutonium polishing. No additional aqueous processing would be necessary to prepare the plutonium dioxide for immobilization.

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In addition to a larger number of operations and facilities, the MOX option also entails an extra transportation step. Under the DOE's preferred alternative, both MOX fuel fabrication and immobilization would occur at SRS. In the case of immobilization, the glass logs would be stored until shipment to a repository. However, for MOX the unirradiated fuel would have to be shipped to the reactor and then the spent fuel shipped to a repository after irradiation.

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Cost

According to the DOE's July 1998 cost estimate report, the cost of MOX and immobilization disposition programs are approximately the same. However, this comparison fails to take into account a number of factors.

First, the DOE assumes that a fuel off-set will be provided by the reactor companies. The idea behind the fuel off-set is that the MOX fuel would be placed in the reactor instead of the low enriched uranium fuel the reactor operators would normally need to purchase. Thus, the DOE assumes that the bidding consortia would subtract this fuel off-set from the charges for constructing and operating the MOX fuel fabrication facility. DOE estimates this fuel off-set to be approximately one billion dollars. While in principle this is possible, there is no guarantee that the reactor companies will agree to provide the fuel off-set. There is already indication that the bidding consortia of reactor operators and nuclear fuel manufacturers do not intend to undertake this task without reaping a profit.

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In fact, one reactor official has stated very explicitly the desire of the nuclear power companies (and by extension the consortium partners which would handle MOX fuel fabrication) to make a profit. Jack Bailey, Vice-president of the Palo Verde nuclear plants stated his company's requirements for added compensation in March 1996:

We also stressed in our letters to DOE that any initiative should address potential benefits to ratepayers and shareholders...

The benefits must be substantial. If not, the entire proposition is a non-starter.

What I mean specifically is that any agreement involving Palo Verde would require more than the incremental costs associated with using MOX fuel instead of uranium. That kind of payment would be insufficient.⁶

Furthermore, the DEIS assumes that MOX fuel would be left in the reactor only long enough to meet the spent fuel standard, not for the maximum length of time a fuel rod would normally be in a reactor (p. 2-99). It is not clear what assumptions were made in the cost estimate as to the residence time of the fuel in the reactor. However, a shorter time in the reactor would mean less of the uranium fuel would be replaced over the timeframe of the disposition mission and would therefore reduce the fuel off-set.

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Second, the cost estimate explicitly excludes a number of factors which could increase the cost of the MOX hybrid options.

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⁶ Jack Bailey, remarks made at the 3rd International Policy Forum: "Deploying the reactor/MOX Option for Plutonium Disposition within the Current System of U.S. and Canadian Nuclear Reactors - Regulatory, Policy Impediments," Landsdowne, VA., March 21, 1996.

MD237-8

Transportation

Additional transportation would be required for the shipment of unirradiated fuel from the MOX facility to the reactor. Transportation of special nuclear materials, including fresh MOX fuel, would use DOE's SST/SGT system. Since the establishment of the DOE Transportation Safeguards Division in 1975, the SST/SGT system has transported DOE-owned cargo over more than 151 million km (94 million mi) with no accidents causing a fatality or release of radioactive material. The transportation requirements for the surplus plutonium disposition program are also evaluated in this SPD EIS.

MD237-9

MOX Approach

Use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors.

Because this comment relates directly to the cost analysis report, it has been forwarded to the cost analysis team for consideration. The *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, is available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

MD237-10

MOX Approach

As discussed in Chapter 2 of Volume I, MOX fuel would be left in the reactor for a full cycle. Under the current reactor options, there are no plans to leave it there only long enough to meet the Spent Fuel Standard.

MD237-11

Cost Report

Cost-related comments are addressed in response MD237-9.

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Costs that would remain the same, independent of where the facility is sited, are not included. Examples of costs that are not included in this report are research and development, environmental analyses, operation of the Defense Waste Processing Facility (DWPF), and nuclear reactor modifications and irradiation services. Total costs shown are, consequently, not full life-cycle costs.⁷

The only cost specific to the immobilization option is operation of DWPF. However, DWPF will operate whether or not plutonium disposition occurs. The costs specific to the MOX portion of the hybrid options are reactor modifications and irradiation services. As there has been no final decision taken about specific reactors to be used for the disposition program, it is not possible to determine how much it will cost to modify the reactors to handle MOX fuel (or if modifications will need to be made). As for irradiation services, it seems unlikely that irradiation service fees will not be part of any bid from the nuclear consortia. As stated above, there is every indication that those companies intend to make a profit from their involvement with this program.

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Therefore, while DOE indicates that the MOX hybrid and immobilization options would be comparable in cost, it is painting a misleading picture by excluding significant costs of the MOX program. The one billion dollar fuel off-set may not be realized. This would raise the hybrid option costs by approximately 50%. Furthermore, the hybrid option costs can be expected to rise even higher due to reactor modifications and irradiation service fees.

Reactor Related Issues

The vast majority of LWRs were not designed to use plutonium as a fuel. While both plutonium-239 and uranium-235 are fissile materials that generate similar amounts of energy per unit weight, there are a number of differences between them as reactor fuels that affect reactor safety. The basic set of concerns relates to control of the reactor. The chain reaction in a reactor must be maintained with a great deal of precision. This control is achieved using control rods usually made of boron and (in pressurized water reactors) by adding boron to the water. Control rods allow for increases and decreases in the levels of reactor power and for orderly reactor shut-down. They prevent runaway nuclear reactions that would result in catastrophic accidents.

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It should be noted that while all commercial LWRs have some amount of plutonium in them which is made during the course of reactor operation from uranium-238 in the fuel, the total amount of plutonium is about one percent or less when low enriched uranium fuel is used. When MOX fuel is used, the total amount of plutonium would at all times be considerably higher. It is this difference that creates most reactor control issues.

⁷ DOE, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition*, (DOE/MD-0009 Rev. 0) July 22, 1998. p. 3-1

MD237-12

MOX Approach

DOE acknowledges the commentor's concern regarding the use of MOX fuel. Although no domestic, commercial reactors are licensed to use plutonium-based fuel, several are designed to use MOX fuel, and others can easily and safely accommodate a partial MOX core. The fabrication of MOX fuel and its use in commercial reactors have been accomplished in Western Europe. This experience would be used for disposition of the U.S. surplus plutonium. The environmental, safety, and health consequences of the MOX approach, as well as the production and disposal of any waste, are addressed in this SPD EIS (see revised Section 4.28 and other appropriate sections in Chapter 4 of Volume I). In addition, NRC would evaluate license applications and monitor the operations of both the MOX facility and the commercial reactors selected to use MOX fuel to ensure adequate margins of safety.

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Changing the fuel can affect the ability of the control rods to provide the needed amount of reactor control and modifications to the reactor may be required before the new fuel can be used.

Several differences between the use of MOX fuel and uranium fuel affect safety:

- The rate of fission of plutonium tends to increase with temperature. This can adversely affect reactor control and require compensating measures. This problem is greater with MOX made with weapons-grade plutonium than that made with reactor-grade plutonium.
- Reactor control depends on the small fraction of neutrons (called delayed neutrons) emitted seconds to minutes after fission of uranium or plutonium. Uranium-235 fission yields about 0.65 percent delayed neutrons, but plutonium yields only about 0.2 percent delayed neutrons. This means that provisions must be made for increased control if plutonium fuel is used, if present control levels and speeds are deemed inadequate.
- Neutrons in reactors using plutonium fuel have a higher average energy than those in reactors using uranium fuel. This increases radiation damage to reactor parts.
- Plutonium captures neutrons with a higher probability than uranium. As a result, a greater amount of neutron absorbers are required to control the reactor.
- The higher proportion of plutonium in the fuel would increase the release of plutonium and other transuranic elements to the environment in case of a severe accident.
- Irradiated MOX fuel is thermally hotter than uranium fuel because larger quantities of transuranic elements are produced during reactor operation when MOX fuel is used.

Overall, the issues related to reactor control, both during normal operation and emergencies, are the most crucial. Most independent authorities have suggested that only about one third of the fuel in an LWR can be MOX, unless the reactor is specifically designed to use MOX fuel. However, there are some operational problems associated with using partial-MOX cores since MOX fuel is interspersed with uranium fuel. Their differing characteristics regarding control, radiation and thermal energy mean that there are non-uniform conditions in the reactor that can render operation and control more complicated. Some reactor operators claim they can use 100 percent MOX cores without needing to make physical changes to the reactor or control rods. The safety implications of such claims need to be independently verified.

Russia only has eight reactors under consideration for loading of MOX fuel. There has been little publicly-available analysis about the safety of loading VVER-1000s with MOX fuel. Many of these reactors are old, and will be nearing the end of their 30-year license at the time MOX loading would begin. Current plans seem to envision potential operation of Russian reactors well beyond this 30-year period. Certainly, this

MD237-13

Nonproliferation

DOE acknowledges the commentator's concern regarding reactor safety and nuclear material safeguards in Russia. Close cooperation between the United States and Russia is essential in achieving the objective of nonproliferation and arms reduction, and to ensure secure management of nuclear weapons materials. To that end, in late July 1998, Vice President Gore and Russian Prime Minister Sergei Kiriyenko signed a 5-year agreement to provide the scientific and technical basis for decisions concerning how surplus plutonium will be managed. This agreement enables the two countries to explore mutually acceptable strategies for safeguarding and dispositioning surplus plutonium. Accordingly, the U.S. Congress appropriated funding for a series of small-scale tests and demonstrations of plutonium disposition technologies jointly conducted by the United States and Russia. During the first week of September 1998, Presidents Clinton and Yeltsin held a Moscow summit and signed a statement of principles with the intention of removing approximately 50 t (55 tons) of plutonium from each country's stockpile. Two of the seven principles that were agreed upon relate to financing arrangements and acceptable methods and technology for transparency measures, including appropriate international verification measures and stringent standards of physical protection, control, and accounting for the management of the plutonium.

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raises safety concerns to an even greater level. Similar problems surround plans to load the BN-600, located at Beloyarsk, with MOX fuel. By Minatom's own reckoning, there have been at least 30 sodium leaks at the reactor since its start of operation in 1980.⁸ Numerous other incidents have also been documented.⁹ Given the current political weakness and underfunding of regulatory forces in Russia, notably Gosatomnadzor, it is unlikely that they can guarantee proper regulation of Russian reactors. What would the US responsibility be in event of an accident at a reactor which occurred in the context of a program promoted by the US government over the wishes of the Russian nuclear establishment? If MOX fuel use in VVERs turns out to be unsafe and an accident occurs as a result, what would US liabilities be? What would be the responsibility of the US government to the Russian people who have already suffered so much from nuclear accidents in the past? Will the US be willing to assume responsibility for an accident due to this change in fuel? Would the US be willing to provide insurance against the increased risk of accidents due to the change in fuel? Furthermore, is the US prepared for the social upheaval that would accompany such an accident? The 1986 Chernobyl accident is widely acknowledged as a precipitating cause of the break-up of the Soviet Union (when combined with other factors). Given the social tensions caused by the current economic troubles, it is not hard to imagine that an accident would have a very serious impact on the stability of Russia, not to mention on the security of nuclear materials there.

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Russia

The Russian public has been an important moderating force on Minatom's plans for a plutonium economy, consistently opposing large new plutonium projects. In this, DOE's non-proliferation interests coincide with the Russian public's desire to protect their health and environment. Given this important conjunction of interests, DOE ought to be promoting the Russian public's voice in disposition decisions. Instead, it seems inclined to ignore Minatom's violation of access to information, environmental, and public participation laws.

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Finally, it is clear that Russia is unable to finance a disposition program without substantial outside help. As we have shown above, DOE's assertions that MOX and immobilization are approximately equal in cost are grossly misleading. MOX is by far the more expensive option, particularly when the potential costs of modifying reactors is added. The lack of money raises serious questions about the potential for large-scale Congressional appropriations, and the possibility of private investment. The latter is particularly troubling, however, because it implies potential commercial use of the MOX fuel fabrication facility and perhaps other plutonium facilities after the end of the disposition program.

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⁸ Joint United States- Russian Plutonium Disposition Study, September 1996, p. Sum-17.

⁹ Leonid Piskunov, *Yadernyi Ob'ekt za Okalitsej Uralskoi Stolitsy*, Ekaterinburg: 1997.

MD237-14

Nonproliferation

DOE will continue to maintain a close working relationship with Russia to develop technical solutions that take into consideration public health and the environment for surplus plutonium disposition.

MD237-15

Nonproliferation

Financing the Russian MOX fuel program, costs of the MOX fuel option, and reuse of the MOX facility are addressed in responses MD237-4, MD237-9, and MD237-13.

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DEIS deficiencies

The DEIS contains a number of deficiencies which need to be addressed. These include:

Representative/Generic Analysis

The DEIS does not include an analysis of impacts for specific reactors to be used for the MOX option. Instead, it appears to rely on a generic analysis conducted as part of the *Storage and Disposition PEIS* (e.g. summary of accident effects on pp. 2-101 and 2-102). Specific reactor analysis will supposedly be included in the Final EIS based upon the response to DOE's *Request for Proposals for MOX Fuel Fabrication and reactor Irradiation Services*. However, there are two problems with this approach. First, the use of the "216" process, in which DOE provides summary information on environmental impacts in order to protect proprietary information, does not allow the public and outside experts to adequately judge the information presented. Second, there will be no opportunity for comment by the public concerning reactor-specific issues during the NEPA process. This will exclude the populations surrounding the reactors from publicly participating in the decision-making process at this stage.

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The DEIS uses a representative site analysis for the source of depleted uranium hexafluoride and for the conversion of the depleted uranium hexafluoride to uranium dioxide. The Portsmouth Gaseous Diffusion Plant is used as the representative site for the source of uranium hexafluoride because it is the only one of the three storage sites with the equipment to transfer the material from its storage containers to the containers used in the conversion process. Of five possible sites for conversion to uranium dioxide, the DOE chose the General Electric Company's Nuclear Energy Production Facility in Wilmington, North Carolina as a representative site (p. 1-8).

While a rationale is given for choosing the Portsmouth facility, there is no reason given for choosing the GE site. In addition to the lack of a clear reason to choose this facility for a representative analysis of the environmental impacts of this process, there is no demonstration of why this particular facility is representative of all facilities. The burden of proof is upon the DOE to demonstrate not only that representative analysis is acceptable technically, but also that the site chosen is representative of the potential impacts. This should also not act as a replacement for a complete environmental impact assessment once a candidate site has been chosen.

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In the final EIS the DOE must clearly show that representative analysis is valid and that the sites chosen are truly representative of the processes and impacts described. The DOE should also state what process will be used for assessing environmental impacts once a site is chosen. The lack of public involvement in this area needs to be addressed as soon as possible.

Comparison of Results

The DEIS does not allow the reader to make a comparison between the alternatives. Section 2.18 is titled "Summary of Impacts of Construction and Operation

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MD237-16

General SPD EIS and NEPA Process

The SPD Final EIS was not issued until the proposed reactors had been identified and the public had an opportunity to comment on the reactor-specific information. As part of the procurement process, bidders were asked to provide environmental information to support their proposals. This information was analyzed in an Environmental Critique prepared for the DOE source selection board prior to award of the MOX fuel fabrication and irradiation services contract. DOE then prepared an Environmental Synopsis on the basis of the Environmental Critique, which was released to the public as Appendix P of the *Supplement to the SPD Draft EIS* in April 1999. This *Supplement* included a description of the affected environment around the three proposed reactor sites, and analyses of the potential environmental impacts of operating these reactors using MOX fuel (Sections 3.7 and 4.28 of this SPD EIS, respectively). During the 45-day period for public comment on the *Supplement*, DOE held a public hearing Washington, D.C., on June 15, 1999, and invited comments. Responses to those comments are provided in Volume III, Chapter 4.

MD237-17

General SPD EIS and NEPA Process

General Electric Company's Nuclear Energy Production Facility in Wilmington, North Carolina, was selected because its operations are typical of those of the candidate sites for the conversion of uranium hexafluoride to uranium dioxide. The analysis presented in Chapter 4 of Volume I indicates that no significant environmental impacts would result from the use of the Nuclear Energy Production Facility, and that there is no physical basis for an expectation of significant impacts at any other candidate facility or along transportation routes to and from facilities.

The methods used to obtain the results are described in Chapter 4 and the relevant appendixes. Regardless of the facility selected, DOE would comply with NEPA and all other applicable laws and regulations.

The comment process for the SPD EIS was open to all interested parties. No individual or organization was excluded from that process.

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of Surplus Plutonium Disposition Facilities.” However, it fails in its task of clearly summarizing the impacts in a manner conducive to comparison. This section (as well as parts of Chapter 4) details the integrated impacts of the MOX option (including irradiation in a reactor and transport). It also provides a comparison of the different types of immobilization options (ceramic vs. glass and homogenous vs. can-in-canister). However, there is no summary of the integrated impacts of the full immobilization option, only a comparison of the impacts of the immobilization facilities. In fact, we could find no presentation of the integrated impacts of the immobilization option could be found in the document. It is not acceptable to expect the public to undertake this task.

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Furthermore, the two sections present the impacts in different ways. The MOX integrated impacts section provide figures for doses, population doses, increased risk and Latent Cancer Fatalities due to routine operations. The section on immobilization only provides doses and population doses.

This is a complicated program with a number of alternatives. It is the DOE's responsibility to present the information in a manner more conducive to comparison and this should be done in the final EIS.

Waste Isolation Pilot Plant

The DEIS assumes the Waste Isolation Pilot Plant will be open and able to handle the transuranic waste from these processes. However, as has been stated repeatedly by IEER in other contexts, WIPP is not the solution to the transuranic waste problem. Furthermore, WIPP is severely behind schedule, faces a number of challenges to its opening, and cannot handle the volume of waste. WIPP should not be assumed to be the final repository for transuranic waste generated during disposition. A safer assumption would be on-site retrievable storage (in RCRA compliant facilities for mixed waste if necessary).

19

Decision Making Process

The DEIS fails to clearly specify the criteria that will be used in making the final decision on which disposition alternative will be followed. The environmental impact assessment of any project should not be simply an exercise to justify policy decisions. The results of the analysis must be included in the final decision-making process in a substantive manner.

Page 2-11 of the DEIS states that three factors were involved in reducing the large number of possible options to the 23 that the DOE considers “reasonable.” Taken in equal measure, these factors were: worker and public exposure to radiation, proliferation concerns due to transportation of materials, infrastructure cost. This raises a number of issues.

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First, why were non-proliferation issues unrelated to transportation ignored in the initial phase of narrowing the options? As discussed above, there are a number of non-proliferation problems with the use of MOX fuel which are not related to transportation. The creation of a plutonium economy which includes reprocessing of spent fuel to extract

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MD237-18

General SPD EIS and NEPA Process

Chapter 4 of Volume I describes the environmental impacts of those alternatives (Alternatives 11 and 12) under which up to 50 t (55 tons) of surplus plutonium would be immobilized. Included are impacts incurred during the construction of new facilities and during facility operation. All categories of impacts are addressed, including those attributable to normal operation, accidents, and transportation.

For each alternative except No Action, the analysis in Chapter 4 shows radiological impacts on the population residing within 80 km (50 mi) of the facilities, the MEI, and the average exposed individual. The analysis of each alternative, including those that involve immobilization only, includes estimates of the population dose, the annual dose to the maximally exposed and average exposed individual, and the LCF risk of a 10-year exposure.

Section 2.18 summarizes the environmental impact information provided in Chapter 4. For ease of comparison, identical summary information is provided for each alternative (see Table 2-4). This information includes impacts on air quality, waste management, employment, and land disturbance, as well as human health risks, the LCF risk from the most severe design basis accident, and transportation risks.

A focused comparison of the preferred alternative (Alternative 3) and the immobilization-only alternative (Alternative 12A) at SRS is provided in the table below.

MD237-19

Repositories

The management of TRU waste generated by the proposed surplus plutonium disposition facilities is evaluated in this SPD EIS. DOE alternatives for TRU waste management are evaluated in the *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste* (DOE/EIS-0200-F, May 1997) and the *WIPP Disposal Phase Final Supplemental EIS* (DOE/EIS-0026-S-2, September 1997). WIPP began receiving shipments of TRU waste for permanent disposal on March 26, 1999. As described in Appendix F.8.1, and the Waste Management sections

Comparison of Alternative 3 with Alternative 12A at SRS

Summary of Impacts	Alternative	
	3	12A
Air quality		
(incremental pollutant concentrations in $\mu\text{g}/\text{m}^3$)^a		
Carbon monoxide	0.37	0.246
Nitrogen dioxide	0.0634	0.0529
PM ₁₀	0.00423	0.00364
Sulfur dioxide	0.124	0.0852
Waste management (m³)^b		
TRU	1800	1500
LLW	2400	1700
Mixed LLW	50	20
Hazardous	940	910
Employment (direct)^c		
Construction	1968	1196
Operations	1120	751
Land disturbance (ha)^d	32	20
Human health risk (dose in person-rem)^e		
Construction (workforce)		
Dose	4.1	2.9
LCFs	1.6×10^{-3}	1.2×10^{-3}
Operations		
Dose		
Public	1.8	1.6
Workers	456	446
LCFs		
Public	9.0×10^{-3}	8.0×10^{-3}
Workers	1.8	1.8
Facility accidents^f		
Tritium release at pit conversion facility	5.0×10^{-2}	5.0×10^{-2}
Transportation^g		
LCFs	8.1×10^{-2}	0.152
Traffic fatalities	5.3×10^{-2}	8.1×10^{-2}
Kilometers traveled (millions)	4.3	4.4
Additional risk of LCFs at Pantex	8.3×10^{-2}	8.3×10^{-2}

^a Values represent the incremental criteria pollutant concentrations associated with surplus plutonium disposition operations for the annual averaging period for nitrogen dioxide, particulate matter with an aerodynamic diameter smaller than or equal to 10 microns (PM₁₀), and sulfur dioxide, and for the 8-hr averaging period for carbon monoxide.

^b Values are based on a construction period of approximately 3 and 10 years of operation.

^c Values are for the peak year of construction for each site and for the annual operation of all facilities for each alternative.

^d Values represent the total land disturbance at each site from construction and operations.

^e Values for Alternative 1 represent impacts over 50 years of operation under No Action. Those for the remaining alternatives are for the period of construction and 10 years of operation. Public dose values represent the annual radiological dose (in person-rem) to the population within 80 km (50 mi) of the facility for the year 2030 under Alternative 1, or for 2010 under Alternatives 2 through 12. Worker dose values represent the total radiological dose to involved workers at the facility (in person-rem/year). Public LCFs represent the 50-year LCFs estimated to occur in the population within 80 km (50 mi) for the year 2030 under Alternative 1, or the 10-year LCFs estimated to occur for the year 2010 under Alternatives 2 through 12. Worker LCFs represent the associated 50- or 10-year LCFs estimated to occur in the involved workforce.

^f The most severe design basis accidents (based on 95 percent meteorological conditions) is used to obtain the population LCF.

^g For alternatives that involve more than one site, the transportation impacts for the entire alternative are shown in the first site listed in the alternative. LCFs are from the radiological exposure associated with incident-free operation, radiological accidents, and fatalities expected as a result of vehicle emissions. Traffic fatalities are from nonradiological vehicle accidents. LCFs at Pantex are associated with repackaging requirements if the pit conversion facility is located elsewhere.

Key: LCF, latent cancer fatality; LLW, low-level waste; TRU, transuranic.

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plutonium will be harder to counter internationally if the United States is using MOX fuel. The desire of the Russian government in particular to eventually extract the plutonium from the spent fuel raises serious non-proliferation concerns.

Second, the choice of a dual-track strategy as the preferred alternative indicates that these criteria were not considered the most important. As discussed above, immobilization provides advantages from an environmental and human health perspective as well as cost savings and the capability of a faster completion of the mission. This does not even take into account the much greater proliferation and policy consequences of a MOX program which should have been included as a criteria.

Third, if these criteria were suitable for an initial screening of options, are they used as the basis for a final decision? What further factors will be used in the final decision?

The final EIS should answer these questions and lay out the criteria for a decision in this program.

Single Facility Analysis

The DEIS fails to analyze an alternative which is "reasonable." It is technically feasible to convert and immobilize all 50 tons of plutonium in a single facility, including pit disassembly and conversion. The pit disassembly and conversion facility transforms the plutonium into an oxide form which is necessary for the ceramification process. However, it also includes processes only necessary for the MOX option, the main one being gallium removal. Under the current planning the facility would be constructed and operated with gallium removal even if the decision is made to immobilize all the plutonium.

However, the immobilization facility also includes the capability to convert plutonium to an oxide form (which is necessary for the 17 tons of non-pit material which is slated for immobilization). It would be possible to expand this capability in the immobilization facility and dispense with the separate Pit Disassembly and Conversion Facility entirely. We do not know what effect this would have on the environmental impacts. However, such a facility would not include the gallium removal process or the plutonium polishing process which is being kept as an option if certain impurities cannot be removed. It would therefore require less overall processing and handling than the current plans.

The DOE has stated that a single immobilization facility should be technically feasible but that the obstacle would be keeping the facility open to IAEA inspection.¹⁶ Under current plans the immobilization facility will be open to inspection by the IAEA. At issue is the fact that the plutonium pits are classified until they are converted into an oxide. However, this argument is disingenuous. It would not be difficult to design the facility in such a way that IAEA inspectors would not have access to the processing

¹⁶ Notes of Hisham Zeriffi taken at the Aug. 20 Idaho Falls hearing on the Surplus Plutonium Disposition Draft Environmental Statement.

in Chapter 4 of Volume I, it is conservatively assumed that TRU waste would be stored at the candidate sites until 2016, at which time it would be shipped to WIPP in accordance with DOE's plans. Expected TRU waste generated by the proposed facilities is included in the *WIPP Disposal Phase Final Supplemental EIS* cumulative impacts estimates, as well as in the *National TRU Waste Management Plan* (DOE/NTP-96-1204, December 1997).

MD237-20

Alternatives

The decision to pursue a hybrid approach to surplus plutonium disposition is reflected in the *Storage and Disposition PEIS* ROD. The three screening criteria described in Section 2.3.1 were used to establish the siting alternatives for the hybrid and immobilization-only approaches, not the alternative technologies. After their application in selecting the reasonable range of alternatives, these criteria were no longer useful as discriminators for the selection of preferred alternatives.

DOE does not agree with the commentor's assertion that the MOX fuel approach does not provide the degree of proliferation resistance that immobilization does. As explained in the *Storage and Disposition PEIS*, DOE's Office of Arms Control and Nonproliferation, with MD support, prepared a report, *Nonproliferation and Arms Control Assessment of Weapons-Usable Fissile Material Storage and Excess Plutonium Disposition Alternatives* (DOE/NN-0007, January 1997), to assist in development of the ROD. This report, which concerns the nonproliferation and arms reduction implications of alternatives for the storage of plutonium and HEU and the disposition of excess plutonium, makes it clear that in regard to nonproliferation issues unrelated to transportation, none of the disposition technologies evaluated is clearly superior to another.

Russia's plans for MOX fuel are addressed in response MD237-1.

MD237-21

Alternatives

It would be technically possible to perform pit disassembly and conversion in the same facility as plutonium conversion and immobilization. However, given the different composition of pit and nonpit plutonium, and the different security issues, it is not clear that there would be any cost or other advantage

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sections which contain classified pits, but would have access to the rest of the facility. Indeed, DOE is already designing such a facility. The Pit Disassembly and Conversion Facility layout presented in the DEIS clearly shows a Classified section where pits are received and a non-classified section after they have been processed. There are even IAEA offices clearly labeled in the non-classified section. There is no reason this could not be done in a single pit disassembly, conversion, and immobilization facility. In fact, on p. 2-20 the DEIS discusses the possibility of collocating the pit disassembly and immobilization functions in an existing facility. If this can be done in an existing facility, it surely can be done in a new facility which is specifically designed to allow for both classified and unclassified sections.

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The failure of this DEIS to analyze a reasonable alternative which would appear to meet their screening criteria is a fundamental flaw. The needs to be addressed before an informed decision can be made as to the relative costs and benefits of the various alternatives.

Worker Risks in Accidents

The DEIS explicitly excludes analyzing the radiological effects of accidents on involved workers (those workers actually involved in a process when an accident occurs). The analysis is limited to non-involved workers 1000 meters away, the maximally exposed individual and the general public within 80 kilometers. The rationale for excluding workers actually involved in an accident is provided in K.1.4.1 which states:

Consequences to workers directly involved in the processes under consideration are addressed generically, without attempt at an scenario-specific quantification of consequences. This approach to in-facility consequences was selected for two reasons. First, the uncertainties involved in quantifying accident consequences become overwhelming for most radiological accidents due to the high sensitivity of dose values to assumptions about the details of the release and the location and behavior of the impacted worker. Also, the dominant accident risks to the worker of facility operations are from standard industrial accidents as opposed to bounding radiological accidents. (p. K-7)

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This rationale is not sufficient to exclude those workers likely to bear the brunt of an accident during processing of plutonium. While it may be true that the models employed have problems below 1000 meters, this does not excuse this omission. Models have been developed for use in such circumstances. Alternatively, an attempt to modify the model could have been made or the uncertainty in the model results expanded to reflect the greater uncertainty in modeling workers close to the accident. Assumptions could be made about worker patterns (similar to the way assumptions are made concerning the general population).

The problem is exacerbated greatly by the presentation of the data on the noninvolved worker. The table which summarizes accident impacts for each alternative does not provide an estimate for the number of Latent Cancer Fatalities for non-involved workers despite providing this information for the general public. It should not be difficult for this estimate to be made as DOE presents numbers on how many badged workers are on-site. This omission is repeated in the summary of impacts presented on

in doing so, even if all 50 t (55 tons) of the surplus plutonium were to be dispositioned through immobilization. Pit and nonpit plutonium would have to be converted to an oxide in separate, totally segregated processes. The pits would be classified, and access to the plutonium and process byproducts would have to be strictly limited. Moreover, the plutonium from the pits would be much purer; most of the nonpit plutonium would be contaminated with a variety of other materials, and the conversion processes would have to be tailored to address that. Services such as access control, shipping, and receiving (including truck bays) could conceivably be shared to some extent. However, because of the classification of almost all pit conversion activities, pit conversion and immobilization processes and spaces would have to be maintained and serviced largely independently of one another. The overall impacts, therefore, would not likely be substantially different from those of two separate but collocated facilities, a condition bounded by the analyses reflected in this SPD EIS.

MD237-22

Facility Accidents

There are a number of factors behind the decision to report worker consequences in the manner presented in this SPD EIS. First, as the commentor has stated, is the inability to calculate radiological doses to the involved worker in a meaningful way given the enormous dependency of calculated dose results on the values of highly uncertain parameters, such as those associated with the particular release mechanisms (e.g., the precise puff distribution of powder for a spill, explosion, or other accident, which depends on drop height, explosion phenomenology, the spatial and temporal failure profile of the can, glove, glovebox), and the assumptions defining the involved worker (e.g., inhaling versus exhaling, location, response to accident). The second factor is that for most accidents with a significant radiological consequence to the involved worker, this consequence is overwhelmed by nonradiological phenomena. This is because it takes a physical insult of some kind to breach radiological confinement. Such phenomena as fires, explosions, and building collapse that result in radiological release (among other things) present more significant nonradiological consequences to the involved worker. As a result, each alternative in Chapter 4 of Volume I includes an estimate of the expected

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pages 2-69 to 2-104. Accident impacts are quantified and discussed for the general population and a one paragraph description of consequences for involved workers is included. However, there is no discussion of impacts to noninvolved workers due to accidents. Table 2.4 which is supposed to be a summary of impacts by Alternative and Site only lists the accident Latent Cancer Fatalities for the general public.

The exclusion of involved workers in the accident analysis and the lack of complete results on the effects of accidents on non-involved workers raises serious questions as to DOE's commitments to worker safety and health. It is a reasonable assumption that the effect of an accident on workers would be greater than on the general public. The probability of Cancer Facility is often ten times higher for the non-involved worker compared to the general public. The probability for the involved worker can be expected to be even higher. By only presenting full results for the public the consequences of accidents appear to be lower than what can reasonably be expected.

The final environmental impact statement should include a full and complete analysis of worker risks.

Plutonium Polishing

Appendix N of the DEIS describes "a polishing process by which impurities, particularly gallium, could be removed from the plutonium feed for mixed oxide (MOX) fuel fabrication." (p. N-1) It is included as an appendix because DOE considers it a contingency in case the dry processes DOE is developing for gallium removal fail to achieve the necessary purification level for MOX fuel fabrication. The plutonium polishing process would be an aqueous (wet) process. In previous analyses, DOE had rejected an aqueous process because of its higher environmental costs. Aqueous processes generate greater waste volumes and the waste is in a liquid form which is more difficult to handle.

It is difficult to determine, from the information given in the DEIS, exactly what the incremental effects of using plutonium polishing would be in all cases. This is because waste generation figures within each alternative are given for all three facilities. The added waste information presented in Appendix N is very confusing, and makes it very difficult to assess the environmental impact of the addition of plutonium polishing on the PDCF. This comparison would be the most suitable in judging the impacts of plutonium polishing.

Appendix N provides the potential impacts of plutonium polishing at the four sites (Tables N-10 to N-13). For the Hanford and SRS sites the DEIS uses alternatives 2 and 3 which would locate all three facilities at the site in question. Plutonium polishing at these sites would approximately 12% more transuranic waste. However, for INEEL and Pantex which would only have two facilities the incremental production of transuranic waste would be approximately 30%. The same holds true generally for low-level waste, mixed low-level waste, hazardous waste, and non-hazardous waste. In fact, for LLW the increases at Hanford and SRS are 27% and 16% respectively, while the increases at INEEL and Pantex are 33% and 64% respectively. This disparity in the cases being

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cases of nonradiological injuries or illnesses and fatalities. These are the dominant risks to involved workers. The reason that risks to the public can be stated in terms of radiological releases is that other facility-related dangers are of only localized concern and do not travel the distance required to represent a public hazard (one notable exception being seismic events, which could cause significant damage to local buildings). With respect to the noninvolved worker, the calculation of population doses, from which cancer statistics can be calculated, is somewhat intractable. The largest individual doses would likely occur immediately outside the facility, particularly for ground-level releases. Doses from stack releases are more stable, but are also highly uncertain at small distances. Therefore, the potentially largest contribution to doses to noninvolved workers are in a regime that is uncertain, for calculations are of questionable value. This problem does not exist for the public, where each member is at a distance where estimates are meaningful. It would be possible, for example, to define the noninvolved worker as a worker beyond some distance like 200 m (656 ft), but the population dose calculated for that population would exclude a potentially large fraction of the total worker dose. Consequently, it was decided to provide the metric of individual dose (and probability of LCF) to the maximally exposed member of the public 1,000 m (3,281 ft) away or at the site boundary if less than 1,000 m (3,281 ft) distant. This was the protocol used in the *Storage and Disposition PEIS*, and it was considered proper for use in this SPD EIS as well; it also provides a valid basis for understanding environmental impacts of and comparing alternatives considered in this EIS.

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compared is very confusing and underplays the impact of plutonium polishing on waste generation. The incremental impacts on the single facility which would actually house the plutonium polishing module would be even greater.

Furthermore, the DOE has not stated how it would make a decision to use plutonium polishing and what role the potential future use of plutonium polishing will have on its more immediate decisions. If DOE decides to proceed with the hybrid approach and it is discovered in the future that plutonium polishing is necessary, resource commitments already made at that point will likely render it difficult to switch to an immobilization only alternative.

Unanswered Questions

While the DEIS does provide a substantial amount of information on both the MOX and immobilization options there are serious gaps.

- What are the DOE's plans to account for the failure of the In-Tank Precipitation (ITP) process at the Savannah River Site? DOE has ruled out the only alternative that it was previously considering, the use of cesium-137 from Hanford. (p. S-15) How will ITP failure affect the immobilization program's technical options and timescale? 7
- What assumptions were made about the number and siting of reactors in assessing the cumulative impacts of the MOX option (Section 2.18.3)? Reference is made in this section to 4.3.5.2 of the *Storage and Disposition PEIS* for a generic analysis of light water reactors using 100% MOX cores. That analysis is for a single reactor at a site and clearly states that for multiple reactors at a site the impacts "would be approximately doubled for two reactors or tripled for three reactors." On p. S-11 of the *Surplus Plutonium Disposition DEIS* it states that irradiation would occur at 3-8 reactors but does not state any assumptions about the number of sites or how many were assumed for the analysis. 23
- Why is the DOE reserving the option to use CANDU reactors and moving forward with testing if throughout the DEIS the assumption is that MOX will be used in US LWRs? If the DOE is still considering CANDU reactors, what effect will Ontario Hydro's recent shutdown of a number of CANDU reactors have on the program? What provisions will be made to ensure that both Canadian and U.S. citizens will have the opportunity for input? 24
- Who is responsible for unirradiated fuel? What will occur if MOX fuel fabrication commences but either the license to use MOX is rejected by the NRC or the reactor operators decide to cancel the project? 25
- How long will unirradiated fuel be stored and at what sites? If storage is at the reactor site, what additional security measures will be undertaken? 26
- What are the implications of siting facilities in the F-Canyon? How will this affect reprocessing policy? How will it affect clean-up of the site? Is there any relation between a decision to use the F-Canyon for the disposition program and the use of the 27

MD237-23

Immobilization

DOE's offices are coordinating efforts so that potential impacts of the SRS HLW program's decisions on immobilization are understood. This would allow any necessary changes to the can-in-canister or other immobilization approach to be made in a timely manner. DOE is presently considering a replacement process for the in-tank precipitation (ITP) process at SRS. The ITP process was intended to separate soluble high-activity radionuclides (i.e., cesium, strontium, uranium, and plutonium) from liquid HLW before vitrifying the high-activity fraction of the waste in DWPF. The ITP process as presently configured cannot achieve production goals and safety requirements for processing HLW. Three alternative processes are being evaluated by DOE: ion exchange, small tank precipitation, and direct grout. DOE's preferred immobilization technology (can-in-canister) and immobilization site (SRS) are dependent upon DWPF providing vitrified HLW with sufficient radioactivity. DOE is confident that the technical solution will be available at SRS by using radioactive cesium from the ion exchange or small tank precipitation process. A supplemental EIS (DOE/EIS-0082-S2) on the operation of DWPF and associated ITP alternatives is being prepared.

In addition, results of an in-progress NAS study will help determine to what extent the can-in-canister configuration meeting the Spent Fuel Standard depends on the presence of an intense radiation barrier. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. Necessary analyses would be conducted at that time should this decision identify the need to reconsider using cesium 137 from the capsules currently stored at Hanford. It should be noted that DOE has not made final decisions on disposition of the Hanford cesium and strontium capsules.

MD237-24

Cumulative Impacts

Section 4.28 was revised to discuss the potential environmental impacts of operating Catawba, McGuire, and North Anna, the reactors that would use

the MOX fuel. The analyses reflect the information provided by the bidders in the MOX procurement process, supplemented by additional information. Section 2.18.3 was revised and Section 4.32.8 was added to include the cumulative impacts of the proposed reactor sites.

MD237-25**Parallex EA**

In the SPD Draft EIS, DOE retained the option to use some of the surplus plutonium as MOX fuel in CANDU reactors, which would have only been undertaken in the event that a multilateral agreement were negotiated among Russia, Canada, and the United States. Since the SPD Draft EIS was issued, DOE determined that adequate reactor capacity is available in the United States to disposition the portion of the U.S. surplus plutonium that is suitable for MOX fuel and, therefore, while still reserving the CANDU option, DOE is no longer actively pursuing it. However, DOE, in cooperation with Canada and Russia, proposes to participate in a test and demonstration program using U.S. and Russian MOX fuel in a Canadian test reactor. A separate environmental review, the *Environmental Assessment for the Parallex Project Fuel Manufacture and Shipment* (DOE/EA-1216, January 1999), analyzes the fabrication and proposed shipment of MOX fuel rods for research and development activities involving the use of limited amounts of U.S. MOX fuel in a Canadian test reactor. A FONSI was signed on August 13, 1999. Both of these documents can be viewed on the MD Web site at <http://www.doe-md.com>. If a decision is made to dispose of Russian surplus plutonium in Canadian CANDU reactors in order to augment Russia's disposition capability, shipments of the Russian MOX fuel would take place directly between Russia and Canada.

MD237-26**DOE Policy**

DOE conducted a procurement process to acquire MOX fuel fabrication and irradiation services. The selected team, DCS, would design, request a license, construct, operate, and deactivate the MOX facility as well as irradiate the MOX fuel in domestic, commercial reactors. However, these activities are subject to the completion of the NEPA process. Because the fuel fabricator and reactor licensees work closely as a team, it is unlikely that the fabrication of MOX fuel would outpace its need. Reactor shutdowns or other operational

issues that could affect the need for fuel would be incorporated into the fuel fabrication schedules, and adjustments made as required. In the event that MOX fuel were made and then not be needed due to NRC not issuing a license amendment or other factors, DOE would be responsible for the unirradiated fuel and would reexamine its disposition options.

MD237–27

MOXRFP

The MOX facility would have the capability to store the MOX fuel for a minimum of 18 months prior to shipment to the reactor sites for irradiation. The MOX facility would be located at an existing secure DOE site. DOE does not anticipate the need for any additional security measures at reactor sites, other than for the additional security applied for the receipt of fresh fuel. MOX fuel would be delivered to the commercial reactors in SST/SGTs. Commercial reactors currently have armed security forces, primarily to protect against perimeter intrusion. There would be increased security for the receipt and storage of fresh MOX fuel, as compared with that for fresh LEU fuel, for additional vigilance inside the perimeter. However, the increased security surveillance would be a small increment to the plant's existing security plan. After irradiation, the MOX fuel would be removed from the reactor and managed with the rest of the spent fuel from the reactor, eventually being disposed of at a geologic repository built in accordance with the NWPA. The duration for storage does not depend on whether the spent fuel originated as MOX or LEU, but rather on when a storage facility is available to receive spent fuel. The storage of MOX spent fuel would not require any additional security due to the radiation barrier and difficulty associated with moving spent fuel.

MD237–28

DOE Policy

The use of U.S. surplus plutonium in existing domestic, commercial reactors does not involve reprocessing (reprocessing is a chemical separation of uranium, transuranic elements [including plutonium], and fission products from spent reactor fuel and the reuse of the plutonium and uranium to produce new fresh fuel). DOE eliminated as unreasonable the eight alternatives in the SPD Draft EIS that used portions of Building 221–F with a new annex at SRS for plutonium conversion and immobilization. It was determined

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F-Canyon to deal with scrubs and alloys from Rocky Flats by reprocessing them at SRS?

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- What are the implications of re-use of the facilities? The DEIS states:

when the missions of the plutonium disposition facilities are completed, deactivation and stabilization would be performed to reduce the risk of radiological exposure; reduce the need for, and costs associated with, long-term maintenance; and prepare the buildings for potential future use. (Chapter 4 of the SPD EIS provides a discussion on deactivation and stabilization.) At the end of the useful life of the facilities, DOE would evaluate options for D&D or reuse of the facilities. D&D of these facilities would not occur for many years. When DOE is ready to propose D&D of these facilities, an appropriate NEPA review will be conducted. (p. S-5)

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Section 4.31 states that "it is assumed that the equipment within the building would be deactivated and the facilities stabilized to a condition suitable for reuse." (p. 4-391, emphasis added) Such a process would include removing both nuclear materials and the equipment. However, DOE does not indicate how it would ensure, either through legal or regulatory means, that the facilities would not be reused for MOX fuel production purposes. The ROD for the *Storage and Disposition of Weapons-Usable Fissile Materials Final PEIS* indicates that DOE would try to limit facility licenses in order to prevent use of the MOX PFF for commercial MOX production (as well as limiting reactor licenses). This is not discussed in the *Surplus Plutonium Disposition DEIS*.

- What are the effects of an accident involving a cask near water? In chapter L, the DEIS describes various tests done on casks (e.g. drop tests). However, the immersion test is done a separate cask, one which has not gone through the series of physical stress tests. How would the accident analysis change if such a test were performed? Are there plausible scenarios for a cask falling from a height and being immersed in water (e.g. accidents on bridges over rivers)?

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DOE's final environmental impact statement should answer these questions.

Conclusions

The "dual-track" strategy and its emphasis on MOX rests on a number of faulty political and technical assumptions. Two of the most important are, first, the idea that the US must implement a MOX program to ensure Russian participation in a disposition program. As we have shown above, this is false for a number of reasons. Second, is the idea that the dual-track provides technical backup in the case of problems with one of the options. This idea is faulty because immobilization is necessary to process 17 of the 50 metric tons of surplus plutonium, and so must be made to operate successfully in any case.

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A MOX disposition program poses a number of long-term proliferation risks not adequately considered by DOE. Most significantly, such a program will finance a MOX fuel fabrication facility in Russia, providing the only missing link in Minatom's plans for

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MD237

that the amount of space required for the immobilization facility would be significantly larger than originally planned. These new space requirements mean that the annex required to be built alongside Building 221-F would be very close in size and environmental impacts to the new immobilization facility alternatives at SRS. Therefore, this SPD EIS only presents the alternatives involving a completely new immobilization facility at SRS. Building 221-F remains the preferred alternative for processing the RFETS plutonium residues and scrub alloy, as described in the *Final Environmental Impact Statement on Management of Certain Plutonium Residues and Scrub Alloy Stored at the Rocky Flats Environmental Technology Site* (DOE/EIS-0277F, August 1998). The cleanup of site facilities after completion of the surplus plutonium disposition program would be conducted in compliance with applicable environmental and safety regulations.

MD237-29

DOE Policy

DOE does not plan to use the proposed surplus plutonium disposition facilities for MOX fuel fabrication after completion of the surplus plutonium disposition program. D&D actions would be commensurate with facility reuse decisions.

MD237-30

Transportation

The Type B shipping containers that would be used for the transportation of surplus plutonium in various forms are described in Appendix L.3.1.6. The requirements for certification of a Type B container include maintaining its integrity at a depth of 15 m (50 ft). This would be a greater depth than would be involved in an accident on most bridges. A more rigorous requirement to withstand a depth of 200 m (656 ft) is required for casks that are certified to carry 1 million or more curies. These requirements are applied to an undamaged container because of the very low probability of a container breach by any realistic cause and on the basis of actual transportation experience. As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures or vehicle emissions are expected.

MD237–31

DOE Policy

The Russian government has plans to use surplus plutonium in commercial reactors. Because the Russians have expressed concern that immobilization would not destroy any plutonium, it is conceivable that the Russians would not eliminate their plutonium stockpile if the United States were to implement an immobilization-only approach. Therefore, the hybrid approach provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in weapons again.

Immobilization is the preferred approach to disposition the 17 t (19 tons) of impure plutonium. All of the surplus plutonium could be made into MOX fuel, however, DOE reviewed the chemical and isotopic composition of the surplus plutonium and determined in the *Storage and Disposition PEIS* ROD that about 8 t (9 tons) of surplus plutonium were not suitable for use in making MOX fuel. Furthermore, DOE has identified an additional 9 t (10 tons) for a total of 17 t (19 tons) that have such a variety of chemical and isotopic compositions that it is more reasonable to immobilize these materials and avert the processing complexity that would be added if these materials were assigned to be made into MOX fuel. The criteria used in this identification included the level of impurities, processing requirements, and the ability to meet the MOX fuel specifications. If at any time it were determined that any of the 33 t (36 tons) currently proposed for MOX fuel fabrication was unsuitable, that portion would be sent to the immobilization facility.

MD237–32

Nonproliferation

DOE acknowledges the commentor's concerns regarding the disposition of surplus Russian plutonium as MOX fuel, although programmatic and policy issues such as U.S. policies toward plutonium disposition in Russia are beyond the scope of this SPD EIS. The United States will not support any plans to build a plutonium economy.

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a plutonium economy. It also poses severe safety and environmental dangers, particularly in its reliance on again Russian reactors. | 32

Furthermore, immobilization provides a number of other advantages over MOX. Reactor control issues would not be present under an immobilization program. The number of facilities and operations would be reduced and the overall cost of the program would be lower. | 33

The DEIS is insufficient as an environmental analysis document. The DOE has failed to include the communities living near the reactors their opportunity to participate in the process. It is insufficient to assume the NRC re-licensing process will accommodate their concerns. Furthermore, many reactor-related issues have been left out of this document. | 16

Similarly, the DOE has failed to demonstrate that the sites chosen for conversion of uranium hexafluoride to uranium dioxide are representative of the actual sites which may be used. DOE has also failed to involve the affected citizens near these sites in the NEPA process. | 17

The DEIS also has a number of deficiencies which need to be addressed. The DOE has failed to analyze a reasonable alternative which would involve a single facility undertaking the pit disassembly and conversion, as well as the immobilization process. The facility accident analysis does not adequately address the issue of worker risk and the effects of accidents on involved workers. The results for non-involved workers are not fully presented. There are numerous other deficiencies and unanswered questions which need to be resolved. | 21
| 22

Unless DOE studies the proper options and provides complete analysis the final environmental impact statement will be fundamentally flawed and incomplete.

Recommendations

The Institute for Energy and Environmental Research strongly urges the Department of Energy to:

1. Select immobilization of all 50 metric tons of plutonium. Immobilization is the best alternative for meeting the non-proliferation and disarmament goals of the program while minimizing the impacts. The MOX option should be rejected for both technical and policy reasons, because it could create many safety and proliferation problems, even while addressing the security of surplus weapons plutonium. Certainly, it is in the interest of the US to encourage plutonium disposition in Russia, and to support such a program financially. However, DOE has not adequately explored other options for reconciling Russian policy on plutonium as an economic asset with the need to put surplus plutonium in non-weapons-usable form. | 34
2. The DOE should analyze the option of conversion and immobilization of all 50 tons of surplus plutonium utilizing a single facility | 21
3. The DOE should revise its accident analysis to include involved workers. | 22

Close cooperation between the two countries is required to ensure that nuclear arms reductions cannot be easily reversed. Understanding the economic dilemma in Russia, the U.S. Congress has appropriated funding for a series of small-scale tests and demonstrations of plutonium disposition technologies jointly conducted by the United States and Russia. In fiscal year 1999 (starting October 1998), Congress further appropriated funding to assist Russia in design and construction of a plutonium conversion facility and a MOX fuel fabrication facility. This funding would not be expended until the presidents of both countries signed a new agreement. Although the amount appropriated by Congress is not sufficient to fund the entire Russian surplus plutonium disposition program, the United States is working with Russia and other nations to resolve this issue.

U.S. nonproliferation policy is addressed in response MD237-4.

MD237-33

Alternatives

It is correct that there would be no reactor issues involved if surplus plutonium disposition occurred through the immobilization-only approach, and the overall costs would probably be less because only two proposed surplus plutonium disposition facilities would be needed. However, the goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. Converting the surplus plutonium into MOX fuel and using it in domestic, commercial reactors is an effective way to accomplish this.

MD237-34

Alternatives

Russia's plans for MOX fuel are addressed in response MD237-1.

Institute for Energy and Environmental Research, Takoma Park, MD

- | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| 4. The DOE should provide integrated impacts for each alternative analyzed. A clear and concise summary of those impacts should be provided and comparisons made between the two major classes of alternatives: Hybrid and immobilization. | 35 |
| 5. The DOE should develop technical back-up options by developing alternate immobilization technologies, perhaps through pilot scale work to handle Rocky Flats materials. | 36 |

MD237-35

General SPD EIS and NEPA Process

A comparison of the impacts of the hybrid and the all immobilization alternatives is addressed in response MD237-18.

MD237-36

DOE Policy

Several immobilization technologies for surplus plutonium disposition were analyzed in the *Storage and Disposition PEIS*. They include vitrification (glass), ceramic immobilization, and electrometallurgical treatment. Vitrification and electrometallurgical treatment are existing technologies. This SPD EIS analyzes the can-in-canister approach for both glass and ceramic immobilization. This technology is currently under testing for ceramic immobilization. Regarding the RFETS plutonium materials, existing technologies are being used to stabilize these materials so that they can be immobilized with the technology chosen in the SPD EIS ROD.

MARYLAND DEPARTMENT OF THE ENVIRONMENT
STEVEN BIEBER
PAGE 1 OF 1



MARYLAND DEPARTMENT OF THE ENVIRONMENT
2500 Broening Highway • Baltimore Maryland 21224
(410) 631-4120

Patte N. Glendon
Governor

Jane T. Mueller
Secretary

August 13, 1998

Mr. Harold Canter
Acting Director
Office of Fissile Materials Disposition
United States Department of Energy
P.O. Box 23786
Washington DC 20026-3786

State Application Identifier: MD980727-0797
Project Description: Draft EIS - Surplus Plutonium Disposition

Dear Mr. Canter:

Thank you for providing the Maryland Department of the Environment (MDE) with the opportunity to comment on the above-referenced project. Copies of the documents were circulated throughout MDE for review, and it has been determined that this project is consistent with MDE's plans, programs and objectives.

1

Again, thank you for giving MDE the opportunity to review this project. If you have any questions or need additional information, please feel free to call me at (410) 631-3656.

Sincerely,

Steven Bieber
MDE Clearinghouse Coordinator
Technical and Regulatory Services Administration

cc: Bob Rosenbush, State Clearinghouse

MD026-1

DOE acknowledges the commentor's input.

Other

MASSACHUSETTS CITIZENS FOR SAFE ENERGY

MARY ELIZABETH LAMPERT

PAGE 1 OF 1

Massachusetts Citizens for Safe Energy

29 Temple Place, Boston MA 02111 [617] 292-4821 phone * [617] 292-8057 fax
148 Washington St., Duxbury MA 02332 [781] 934-0389 phone* [781] 934-5579 fax

July 21, 1998

JUL 27 1998

U.S. Department of Energy
Office of Fissile Materials Disposition
P.O. Box 23786 - Washington DC 20026-5134

**RE: Request for DOE Meeting Concerning DEIS Regarding
MOX in Boston/Plymouth MA Area**

One operating nuclear reactor remains in Massachusetts - the Pilgrim Nuclear Power Station in Plymouth, Massachusetts. We have no confidence in the safety of that reactor because, for example: it is old and experiencing age-related deterioration peculiar to boiling water reactors; it is a GE Mark I - a flawed design and the manufacturer, GE, holds the prize for making reactors with the most troubled histories in the U.S.; the N.R.C., the regulators, have a consistent history of being the lapdogs, instead of the watchdogs, of the industry; and Massachusetts has recently deregulated its electric market with consequent efforts by the owner of Pilgrim NPS to cut corners in an attempt to compete.

1

With that as background, it is understandable why we oppose the MOX proposal which would both raise the probability of a severe reactor accident and more than double the radioactivity that could be released should an accident occur.

We request that an additional DOE meeting on the Draft Environmental Impact statement be held in the Boston/Plymouth area to provide you with an opportunity for dialogue with individuals and groups who stand to be impacted by your proposal in the future.

2

The meetings scheduled to date are in Richland, Washington; Amarillo, Texas; North Augusta, SC; Portland, Oregon; Idaho Falls, ID. There are none scheduled in the Northeast where many of the aged reactors which potentially may use MOX fuel are located. We are left out of the process.

Respectfully submitted by,



Mary Elizabeth Lampert

MD001

MD001-1

MOXRFP

Section 4.28 was revised to discuss the potential environmental impacts of operating Catawba, McGuire, and North Anna, the reactors that would use the MOX fuel, should the decision be made to proceed with the hybrid approach. In addition, the reactors selected include only those reactors whose operational life is expected to last beyond the life of the surplus plutonium disposition program. Thus, the Pilgrim reactor was not considered because it is an older reactor.

MD001-2

General SPD EIS and NEPA Process

DOE does not believe that an additional public hearing in the Northeast is necessary, since none of the reactors to be used are located there. All interested parties were encouraged to comment on the *Supplement to the SPD Draft EIS* issued in April 1999. This *Supplement* included the Environmental Synopsis, a description of the affected environment around the three proposed reactor sites, and analyses of the potential environmental impacts of operating these reactors using MOX fuel (Appendix P and Sections 3.7 and 4.28 of this SPD EIS, respectively). During the 45-day period for public comment on the *Supplement*, DOE held a public hearing in Washington, D.C., on June 15, 1999, and invited comments. Responses to those comments are provided in Volume III, Chapter 4.

Comment Documents and Responses—Massachusetts

CITY OF ALGONAC

RESOLUTION

URGING THE UNITED STATES DEPARTMENT OF ENERGY TO REFRAIN FROM TRANSPORTING WEAPONS-USABLE FISSILE MATERIAL THROUGH MICHIGAN AND ST. CLAIR COUNTY IN PARTICULAR

WHEREAS, the United States Department of Energy is studying transportation options for moving weapons-usable fissile materials, including plutonium, for disposition. One of the three options under consideration is transporting the nuclear materials and fuel to Canada through Michigan utilizing the Blue Water Bridge at Port Huron; and

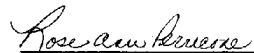
WHEREAS, there are many problems with transporting volatile and carcinogenic materials. The security and environmental risks are considerable and utilizing the Blue Water Bridge route would jeopardize the population of St. Clair County and the water supply of the Great Lakes; and

WHEREAS, there are many other suitable access points than the international water boundaries of Michigan. The western portions of the continent offer access that is much easier to secure and does not involve transportation through as many densely populated areas.

NOW, THEREFORE, BE IT RESOLVED, by the Algonac City Council, that we urge the United States Department of Energy to refrain from transporting weapons-usable fissile materials through Michigan and St. Clair County; and

BE IT FURTHER RESOLVED, that a copy of this resolution be forwarded to the United States Department of Energy Office of Fissile Materials Disposition and each of our appropriate federal and state elected officials.

ADOPTED 8/4/98


Rose Ann Perricone
City Clerk

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MD017

MD017-1

Parallex EA

DOE acknowledges the commentors' concern with transportation of material through Michigan. The transportation of weapons-usable fissile materials through Michigan and St. Clair County is beyond the scope of the proposed action analyzed in this SPD EIS. Shipments of a small quantity of MOX fuel from LANL to Canada were part of a separate proposed action. DOE has prepared an *Environmental Assessment for the Parallex Project Fuel Manufacture and Shipment* (DOE/EA-1216, January 1999) and FONSI, signed August 13, 1999, on fabrication of the MOX fuel and its transportation to Canada. Because the Blue Water Bridge in Port Huron, Michigan, will be under renovation during the time of the proposed shipment, the route using that bridge was removed from consideration. This EA and FONSI can be viewed on the MD Web site at <http://www.doe-md.com>.



13892 HOUGH ROAD,
BERVILLE, MI, 48002
PHONE: (810) 784-9969
FAX: (810) 784-9717

RESOLUTION 98-8
TRANSPORTATION OF NUCLEAR-GRADE MATERIALS

WHEREAS, the United States Department of Energy is studying transportation options for moving weapons-usable fissile materials, including plutonium, through Michigan, possibly utilizing I-69 and the Blue Water Bridge in Port Huron, and

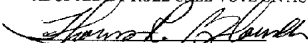
WHEREAS, we are all aware of the many problems associated with transporting volatile and carcinogenic materials. The environmental risks are excessively high and the use of the Blue Water Bridge route would definitely jeopardize the population of Berlin Township as well as all of the other communities along this route and finally, of all places, one of the Great Lakes, and

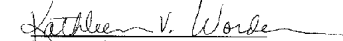
WHEREAS, there are many other more suitable access points than the international water boundaries of Michigan. And as you must know, the western portions of the continent are more easily accessed and do not involve transportation through this densely populated area.

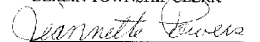
NOW, THEREFORE, BE IT RESOLVED: by the Berlin Township Board, St. Clair County, Michigan, that we sincerely urge the Department of Energy to exclude from consideration, the I-69 to Port Huron route, as a choice for transport of weapons-usable fissile material.

BE IT FURTHER RESOLVED, that a copy of this resolution be forwarded to the United States Department of Energy Office of Fissile Materials Disposition and each of our appropriate federal and state elected officials.

ADOPTED BY ROLL CALL VOTE ON AUGUST 10, 1998


BERLIN TOWNSHIP SUPERVISOR


BERLIN TOWNSHIP CLERK


BERLIN TOWNSHIP TREASURER


BERLIN TOWNSHIP TRUSTEE


BERLIN TOWNSHIP TRUSTEE

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MD018

MD018-1

Parallex EA

DOE acknowledges the commentors' concern with transportation of material through Michigan. The transportation of weapons-usable fissile materials through Michigan and St. Clair County is beyond the scope of the proposed action analyzed in this SPD EIS. Shipments of a small quantity of MOX fuel from LANL to Canada were part of a separate proposed action. DOE has prepared an *Environmental Assessment for the Parallex Project Fuel Manufacture and Shipment* (DOE/EA-1216, January 1999) and FONSI, signed August 13, 1999, on fabrication of the MOX fuel and its transportation to Canada. Because the Blue Water Bridge in Port Huron, Michigan, will be under renovation during the time of the proposed shipment, the route using that bridge was removed from consideration. This EA and FONSI can be viewed on the MD Web site at <http://www.doe-md.com>.

I would like to receive the Surplus Plutonium Disposition Draft Environmental Impact Statement. I did call about this about one month ago, and I have not received it yet. And the local people here would like to have a meeting. We feel that we need a public meeting here, as you would like to bring it through our Blue Water Bridge in Port Huron. You will be receiving information from our County Commissioners and our Port Huron City Councilmen. We all feel that is an important spot to have a meeting and we do not feel that we have had time to review the EIS, because we only have until September 16th and we believe that date should be pushed up. We have not been able to review it. We haven't been able to discuss it. And we would like to respond before September 16th as we feel it is our right. Thank you. Good bye.

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PD025

PD025-1

Parallex EA

DOE acknowledges the commentator's concern regarding transportation of material through Michigan. The transportation of weapons-usable fissile materials through Michigan and St. Clair County is beyond the scope of the proposed action analyzed in this SPD EIS. Shipments of a small quantity of MOX fuel from LANL to Canada were part of a separate proposed action. DOE has prepared an *Environmental Assessment for the Parallex Project Fuel Manufacture and Shipment* (DOE/EA-1216, January 1999) and FONSI, signed August 13, 1999, on fabrication of the MOX fuel and its transportation to Canada. Because the Blue Water Bridge in Port Huron, Michigan, will be under renovation during the time of the proposed shipment, the route using that bridge was removed from consideration. This EA and FONSI can be viewed on the MD Web site at <http://www.doe-md.com>.

DOE does not believe that a hearing in Michigan is necessary because none of the actions addressed in this SPD EIS would occur there.

BROCKWAY TOWNSHIP

A resolution to urge the United States Department of Energy to refrain from transporting weapons-usable fissile material through Michigan and St. Clair County in particular.

Whereas, The United States Department of Energy is studying transportation options for moving weapons-usable fissile materials, including plutonium, for disposition. One of the three options under consideration is transporting the nuclear materials and fuel to Canada through Michigan utilizing the Blue Water Bridge at Port Huron; and

Whereas, There are many problems with transporting volatile and carcinogenic materials. The security and environmental risks are considerable and utilizing the Blue Water Bridge route would jeopardize the population of St. Clair County and the water supply of the Great Lakes; and

Whereas, There are many other suitable access points than the international water boundaries of Michigan. The western portions of the continent offer access that is much easier to secure and does not involve transportation through as many densely populated areas; now, therefore, be it

Resolved by the Brockway Township Board of Trustees, That we urge the United States Department of Energy to refrain from transporting weapons-usable fissile materials through Michigan and St. Clair County; and it further be

Resolved, That a copy of this resolution be transported to the United States Department of Energy Office of Fissile Materials Disposition and each of our appropriate federal and state elected officials.

CARL VERMEESCH, SUPERVISOR

Carl Vermeesch

ARTHUR LAUPICHLER, CLERK

Arthur Laupichler

RUTH KROSNICKI, TREASURER

Ruth Kroznicki

FRED THEEL, TRUSTEE

Fred Theel

RONALD MEHARG, TRUSTEE

Ronald Meharg

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MD161

MD161-1

Parallex EA

DOE acknowledges the commentors' concern with transportation of material through Michigan. The transportation of weapons-usable fissile materials through Michigan and St. Clair County is beyond the scope of the proposed action analyzed in this SPD EIS. Shipments of a small quantity of MOX fuel from LANL to Canada were part of a separate proposed action. DOE has prepared an *Environmental Assessment for the Parallex Project Fuel Manufacture and Shipment* (DOE/EA-1216, January 1999) and FONSI, signed August 13, 1999, on fabrication of the MOX fuel and its transportation to Canada. Because the Blue Water Bridge in Port Huron, Michigan, will be under renovation during the time of the proposed shipment, the route using that bridge was removed from consideration. This EA and FONSI can be viewed on the MD Web site at <http://www.doe-md.com>.

CHARTER TOWNSHIP OF CHINA
St. Clair County, Michigan
Resolution #8-98

URGING THE UNITED STATES DEPARTMENT OF ENERGY TO REFRAIN
FROM TRANSPORTING WEAPONS-USABLE FISSILE MATERIAL
THROUGH MICHIGAN AND ST. CLAIR COUNTY IN PARTICULAR

WHEREAS, the United States Department of Energy is studying transportation options for moving weapons-usable fissile materials, including plutonium, for disposition. One of the three options under consideration is transporting the nuclear materials and fuel to Canada through Michigan utilizing the Blue Water Bridge at Port Huron; and

WHEREAS, there are many problems with transporting volatile and carcinogenic materials. The security and environmental risks are considerable, and utilizing the Blue Water Bridge route would jeopardize the population of St. Clair County and the water supply of the Great Lakes; and

WHEREAS, there are many other suitable access points than the international water boundaries of Michigan. The western portions of the continent offer access that is much easier to secure and does not involve transportation through as many densely populated areas.

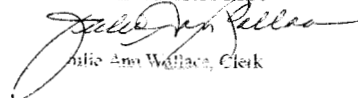
NOW, THEREFORE, BE IT RESOLVED, by the Charter Township of China Board of Trustees, that the United States Department of Energy be urged to refrain from transporting weapons-usable fissile materials through Michigan and St. Clair County; and

IT IS FURTHER RESOLVED, that a copy of this resolution be forwarded to the United States Department of Energy Office of Fissile Materials Disposition and each of our appropriate federal and state elected officials.

The following aye votes were recorded: Allen, Neiman, Wallace, Schwehofer,
Markel, and Green
Absent: Lindsay

The following nay votes were recorded: None

CHARTER TOWNSHIP OF CHINA
BOARD OF TRUSTEES


Julie Ann Wallace, Clerk

MD082

MD082-1

Parallex EA

The transportation of weapons-usable fissile materials through Michigan and St. Clair County is beyond the scope of the proposed action analyzed in this SPD EIS. Shipments of a small quantity of MOX fuel to Canada were part of a separate proposed action. DOE has prepared an *Environmental Assessment for the Parallex Project Fuel Manufacture and Shipment* (DOE/EA-1216, January 1999) and FONSI, signed August 13, 1999, on fabrication of the MOX fuel and its transportation to Canada. Because the Blue Water Bridge in Port Huron, Michigan, will be under renovation during the time of the proposed shipment, the route using that bridge was removed from consideration. This EA and FONSI can be viewed on the MD Web site at <http://www.doe-md.com>.

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STATE OF MICHIGAN)
COUNTY OF ST. CLAIR)

I, Julie Ann Wallace, Clerk of the Charter Township of China, County of St. Clair,
and State of Michigan, do hereby certify that the above Resolution #8-98 is a true and
exact copy of the Resolution adopted at a regular meeting held August 17, 1998.


JULIE ANN WALLACE
Township Clerk

DATE: August 17, 1998

MD082

Sept. 16th 1998

Office of Fissile Materials Management
U.S. Dept. of Energy
1000 Independence Ave. SW
Washington D.C.

To the Dept. of Energy:

I am writing in behalf of Citizens For a Healthy Planet, a grassroots environmental group based in St. Clair County, Michigan. We are requesting a 60 day extension of the comment period and additional Public Hearings on the Draft Spent Plutonium Disposition Environmental Impact Statement.

One good reason for extending the comment period is that some of the persons in our area requesting the SPDES documents requested the documents immediately upon notification of their existence, yet the documents did not arrive until at least 5 weeks after the start of the comment period. I personally requested documents at the same time and received mine 3 weeks after the start of the comment period. This seems blatantly unfair as 2 weeks is not enough time to read these documents, and send for related reports noted in these documents.

We are asking for additional hearings:

First, we propose at least a hearing in the Port Huron, Michigan/ Sarnia, Ontario, Canada area, since the Parallel Project (the proposed shipping of U.S. MOX fuel from Los Alamos, New Mexico for testing at Chalk River, Canada) was shunned to an Environmental Assessment without notifying persons on the Plutonium Disposition mailing list, and providing no chance for local or national public review of the documents (especially sharing out, review and comments by residents of the proposed routes which are impacted areas.) We also ask that all persons on the Plutonium Disposition mailing list be notified immediately of the existence of the Environmental Assessment of the Parallel Project, and given a 60 day comment period and opportunity to ask for hearings. 2) that the Final Environmental Assessment for the Parallel Project not be completed before 1) and 2) are done. We also note that the St. Clair County Commissioners, the City of Port Huron, the Mayor of Sarnia, Ontario in Canada, and Port Huron, Michigan, several townships in St. Clair County, many Michigan legislators including State Rep. Karen Willard and Federal Rep. David Bonior, Senator Spencer Abraham, as well as many Great Lakes, Canadian and Michigan environmental groups including Great Lakes United, Nuclear Awareness Project, Citizens For Alternatives to Chemical Contamination, Michigan Environmental Council, et al. are calling for hearings in the Port Huron/Sarnia area. We would also ask that the Dept. of Energy refrain from selling review by the Governor of states and Tribes along the route Public Review, especially as their comments are not available to the general public, in the states along the route or interested public on the Plutonium Disposition mailing list. What happened to the DOE's commitment to openness to the public?

We also support STANTO of Ansan in their request for additional hearings: 1) near reactor sites that are being considered for use of MOX fuel. 2) a hearing in Dallas, Texas as Dallas is likely to be a corridor for spent nuclear shipments and radioactive waste from new operations. 3) in Denver, Colorado, in close proximity to Rocky Flats where approximately 25 % of the surplus plutonium is in storage. 4) regional hearings in Savannah, Georgia and Columbia, South Carolina. The DOE cannot justify excluding Savannah from hearings while holding one in Portland, no longer under serious consideration for the plutonium processing facilities. Impacts on the Savannah River from SRS operations and accidents are well documented and the Dept. of Energy owes these impacted citizens the right to speak out on any further plans, a hearing in Washington D. C. where many public policy and business are made, and many consumer advocate groups and non-governmental organizations exist that would monitor both the Dept. of Energy and taxpayer dollars that would go to support the DOE's Plutonium Disposition projects.

Finally, we feel that since all of these projects will impact greatly on every U.S. taxpayer, we suggest that in addition to normal DOE public notification policy that the U.S. DOE break with tradition and send press releases also through the Associated Press or other national media for distribution in newspapers nationwide in the Sunday editions every time it releases documents pertaining to the Plutonium Disposition.

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FD321

FD321-1

Parallex EA

The transportation of weapons-usable fissile materials through Michigan and St. Clair County is beyond the scope of the proposed action analyzed in this SPD EIS. Shipments of a small quantity of MOX fuel to Canada were part of a separate proposed action. DOE has prepared an *Environmental Assessment for the Parallex Project Fuel Manufacture and Shipment* (DOE/EA-1216, January 1999) and FONSI, signed August 13, 1999, on fabrication of the MOX fuel and its transportation to Canada. Because the Blue Water Bridge in Port Huron, Michigan, will be under renovation during the time of the proposed shipment, the route using that bridge was removed from consideration. This EA and FONSI can be viewed on the MD Web site at <http://www.doe-md.com>. To provide for public comment on the SPD Draft EIS, DOE conducted public hearings near the potentially affected DOE sites and therefore, with the most directly concerned population. This decision did not preclude relevant comment by State and local governments, individuals, and organizations in Michigan. Approximately 1,700 copies of the SPD Draft EIS were mailed, and an NOA letter was mailed to an additional 5,500 members of the public. Several means were available for providing comments: public hearings, mail, a toll-free telephone and fax line, and the MD Web site. Equal consideration was given to all comments, regardless of how or where they were received. DOE does not believe that any extension of the comment period on the SPD Draft EIS is necessary. Moreover, DOE does not believe that a hearing in Michigan is necessary because none of the actions addressed in this SPD EIS would occur there.

FD321-2

General SPD EIS and NEPA Process

DOE used various methods, including press releases to national and local news media—newspapers, radio stations, and television stations—to announce the availability of the SPD Draft EIS. It also mailed availability announcements to national, local, and tribal officials, as well as members of the public.

CITIZENS FOR A HEALTHY PLANET
KATHRYN CUMBOW
PAGE 2 OF 2

There is much more we would like to say, and more documents and reports we would like to read and refer to. Our group is made up of people who work and have families and we do not have the luxury to spend the time or money that is needed to speak to the mighty corporate and defense interests and munies that are spinning these huge plans forward. Plutonium is a lethal poison and has a half-life of 24,000 years. Whatever we do with it will have a lasting effect on our living conditions on everyone on this planet. Therefore, we recommend in the interest of all humankind that these decisions not be made in haste, and that in the very least that the spirit of NEPA not be violated, by lack of meaningful public involvement in the planning and decision process.

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Signed,

Kathryn Cumbow,
Citizens For a Healthy Planet,
Box 334,
Emmett, MI 48020

FD321

CITIZENS RESISTANCE INFIRMITY II
MICHAEL KEAGAN
PAGE 1 OF 1

Hello, this is Michael Keagan, and I'm calling on behalf of Citizens Resistance Infirmary II. We have formally taken a position that we are requesting an extension of the public comment period on the environmental assessment pertaining to the MOX Parallelex project. We are in strong opposition to this being carried through and we are asking for our comments, an extension of time so that we can make comments on this MOX Parallelex Project. My phone number is (313) 457-5979. Again that's Michael Keagan with Citizens Resistance Infirmary II. Thank you. I'm requesting a 90-day extension.

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PD064

PD064-1

Parallelex EA

Shipments of a small quantity of MOX fuel from LANL to Canada were part of a separate proposed action, the Parallelex Project; therefore, it is beyond the scope of the proposed action analyzed in this SPD EIS. DOE has prepared an *Environmental Assessment for the Parallelex Project Fuel Manufacture and Shipment* (DOE/EA-1216, January 1999) and FONSI, signed August 13, 1999, on fabrication of the MOX fuel and its transportation to Canada. This EA and FONSI can be viewed on the MD Web site at <http://www.doe-md.com>. As indicated in Section 1.1, while the United States is participating in the Parallelex Project, it is no longer actively pursuing the CANDU option as part of its plutonium disposition program. If Russia and Canada agree to disposition Russian surplus plutonium in CANDU reactors in order to augment Russia's disposition capability, shipments of the Russian MOX fuel would take place directly between Russia and Canada.



TOWNSHIP OF CLAY

County of St. Clair

JON E. MANOS
Supervisor

MICHAEL P. PELLERITO
Clerk

CONNIE S. TURNER
Treasurer

4710 PTE. TREMBLE ROAD - P.O. BOX 428

CLAY TOWNSHIP, MICHIGAN 48001-0428

TELEPHONE (810) 794-9303
FAX (810) 794-1964

BUILDING-ASSESSING
(810) 794-9320

August 19, 1998

U.S. Department of Energy
Office of Fissile Materials Disposition
P.O. Box 23786
Washington D.C. 20026-3786

Enclosed is a Resolution adopted by the Clay Township Board of Trustees on August 3, 1998 urging the United States Department of Energy to refrain from transporting weapons-usable fissile material through St. Clair County.

Sincerely,

Jon E. Manos
Clay Township Supervisor

JEM/vk
Enclosure

MD104

RESOLUTION

URGING THE UNITED STATES DEPARTMENT OF ENERGY TO REFRAIN FROM TRANSPORTING WEAPONS-USABLE FISSILE MATERIAL THROUGH MICHIGAN AND ST. CLAIR COUNTY IN PARTICULAR

Minutes of a regular meeting of the Township Board of the Township of Clay, County of St. Clair, Michigan held in the Harsens Island Lions Hall, 263 LaCroix Road, Harsens Island, Michigan on the 3rd of August, 1998, at 7:30 p.m. Eastern Standard Time.

PRESENT: Supervisor Jon Manos, Clerk Michael Pellerito, Treasurer Connie Turner, Trustee Pat Sharrow, Trustee Dr. L. Kasperowicz, Trustee Joanne Shirkey, Trustee George Webster.

ABSENT: None.

The following Preamble and Resolution were offered by Trustee George Webster and supported by Trustee Joanne Shirkey.

A resolution to urge the United States Department of Energy to refrain from transporting weapons-usable fissile material through Michigan and St. Clair County in particular.

WHEREAS, the Township of Clay supports the St. Clair County Board of Commissioner's Resolution No. 98-29, hereby, offers the following Resolution:

WHEREAS, there are many problems with transporting volatile and carcinogenic materials. The security and environmental risks are considerable and utilizing the Blue Water Bridge route would jeopardize the population of St. Clair County and the water supply of the Great Lakes; and

WHEREAS, there are many other suitable access points than the international water boundaries of Michigan. The western portions of the continent offer access that is much easier to secure and does not involve transportation through as many densely populated areas.

NOW, THEREFORE, BE IT RESOLVED, by the Clay Township Board of Trustees that we urge the United States Department of Energy to refrain from transporting weapons-usable fissile materials through Michigan and St. Clair County; and

BE IT FURTHER RESOLVED, that a copy of this resolution be forwarded to the United States Department of Energy Office of Fissile Materials Disposition and each of our appropriate federal and state elected officials.

ROLL CALL VOTE WAS AS FOLLOWS:

AYES: Sharrow, Dr. Kasperowicz, Turner, Manos, Pellerito, Shirkey, Webster.

NAYS: None.


ABSENT: None.

This Resolution adopted by the Clay Township Board of Trustees August 3, 1998.


Michael P. Pellerito
Clay Township Clerk

CERTIFICATION

I, hereby, certify that the foregoing constitutes a true and complete copy of a Resolution adopted by the Township Board of the Township of Clay, County of St. Clair, Michigan, at a regular meeting held on August 3, 1998, and that said meeting was conducted and public notice of said meeting was given pursuant to and in full compliance with the Open Meetings Act, being Act 267, were kept and will be or have been made available as required by said Act.


Michael P. Pellerito
Clay Township Clerk

MD104

MD104-1

Parallex EA

DOE acknowledges the commentors' concern with transportation of material through Michigan. The transportation of weapons-usable fissile materials through Michigan and St. Clair County is beyond the scope of the proposed action analyzed in this SPD EIS. Shipments of a small quantity of MOX fuel from LANL to Canada were part of a separate proposed action. DOE has prepared an *Environmental Assessment for the Parallex Project Fuel Manufacture and Shipment* (DOE/EA-1216, January 1999) and FONSI, signed August 13, 1999, on fabrication of the MOX fuel and its transportation to Canada. Because the Blue Water Bridge in Port Huron, Michigan, will be under renovation during the time of the proposed shipment, the route using that bridge was removed from consideration. This EA and FONSI can be viewed on the MD Web site at <http://www.doe-md.com>.

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RESOLUTION 98-29

URGING THE UNITED STATES DEPARTMENT OF ENERGY TO REFRAIN FROM TRANSPORTING WEAPONS-USABLE FISSILE MATERIAL THROUGH MICHIGAN AND ST. CLAIR COUNTY IN PARTICULAR

WHEREAS, the United States Department of Energy is studying transportation options for moving weapons-usable fissile materials, including plutonium, for disposition. One of the three options under consideration is transporting the nuclear materials and fuel to Canada through Michigan utilizing the Blue Water Bridge at Port Huron; and

WHEREAS, there are many problems with transporting volatile and carcinogenic materials. The security and environmental risks are considerable and utilizing the Blue Water Bridge route would jeopardize the population of St. Clair County and the water supply of the Great Lakes; and

WHEREAS, there are many other suitable access points than the international water boundaries of Michigan. The western portions of the continent offer access that is much easier to secure and does not involve transportation through as many densely populated areas.

NOW, THEREFORE, BE IT RESOLVED, by the St. Clair County Board of Commissions, that we urge the United States Department of Energy to refrain from transporting weapons-usable fissile materials through Michigan and St. Clair County; and

BE IT FURTHER RESOLVED, that a copy of this resolution be forwarded to the United States Department of Energy Office of Fissile Materials Disposition and each of our appropriated federal and state elected officials.

DATED: August 18, 1998

Reviewed and Approved by:

ELWOOD L. BROWN
County Corporation Counsel
301 County Building
Port Huron, MI 48060

Rebecca Yarr, Clerk
Clyde Tursky

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MD099

MD099-1

Parallex EA

DOE acknowledges the commentors' concern with transportation of material through Michigan. The transportation of weapons-usable fissile materials through Michigan and St. Clair County is beyond the scope of the proposed action analyzed in this SPD EIS. Shipments of a small quantity of MOX fuel from LANL to Canada were part of a separate proposed action. DOE has prepared an *Environmental Assessment for the Parallex Project Fuel Manufacture and Shipment* (DOE/EA-1216, January 1999) and FONSI, signed August 13, 1999, on fabrication of the MOX fuel and its transportation to Canada. Because the Blue Water Bridge in Port Huron, Michigan, will be under renovation during the time of the proposed shipment, the route using that bridge was removed from consideration. This EA and FONSI can be viewed on the MD Web site at <http://www.doe-md.com>.

COLUMBUS TOWNSHIP BOARD OF TRUSTEES
PAGE 1 OF 1

TOWNSHIP OF COLUMBUS

RESOLUTION 98-08

URGING THE UNITED STATES DEPARTMENT OF ENERGY TO REFRAIN FROM
TRANSPORTING WEAPONS-USABLE FISSILE MATERIAL THROUGH MICHIGAN
AND IN ST. CLAIR COUNTY IN PARTICULAR

WHEREAS, the United States Department of Energy is studying transportation options for moving weapons-usable fissile materials, including plutonium, for disposition. One of the three options under consideration is transporting the nuclear materials and fuel to Canada through Michigan utilizing the Blue Water Bridge at Port Huron; and

WHEREAS, there are many problems with transporting volatile and carcinogenic materials. The security and environmental risks are considerable and utilizing the Blue Water Bridge route would jeopardize the population of St. Clair County and the water supply of the Great Lakes;

WHEREAS, there are many other suitable access points than the international water boundaries of Michigan. The western portions of the continent offer access that is much easier to secure and does not involve transportation through as many densely populated areas.


NOW, THEREFORE, BE IT RESOLVED, by the Columbus Township Board of Trustees, that we urge the United States Department of Energy to refrain from transporting weapons-usable fissile materials through Michigan and St. Clair County; and

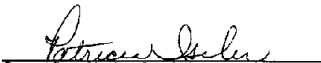
BE IT FURTHER RESOLVED, that a copy of this resolution be forwarded to the United States Department of Energy Office of Fissile Materials Disposition and each of our appropriate federal and state elected officials.

DATED: August 11, 1998

Reviewed and Approved By:

COLUMBUS TOWNSHIP BOARD OF TRUSTEES


JAMES V. DUBAY
Columbus Township Attorney
68650 Main Street
Richmond, MI. 48062


By: Patricia Iseler
Columbus Township Clerk

MD023

MD023-1

Parallex EA

DOE acknowledges the commentors' concern with transportation of material through Michigan. The transportation of weapons-usable fissile materials through Michigan and St. Clair County is beyond the scope of the proposed action analyzed in this SPD EIS. Shipments of a small quantity of MOX fuel from LANL to Canada were part of a separate proposed action. DOE has prepared an *Environmental Assessment for the Parallex Project Fuel Manufacture and Shipment* (DOE/EA-1216, January 1999) and FONSI, signed August 13, 1999, on fabrication of the MOX fuel and its transportation to Canada. Because the Blue Water Bridge in Port Huron, Michigan, will be under renovation during the time of the proposed shipment, the route using that bridge was removed from consideration. This EA and FONSI can be viewed on the MD Web site at <http://www.doe-md.com>.

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My name is Mat Dudus. I'm just calling to let you guys know that recently there was this article in the Detroit Free Press on Thursday, August 27th concerning a possible shipment of plutonium to Michigan to Canada. I hope you guys choose Michigan now even more so because this is, this reporting is just crazy on their part to scare up some sales of papers and scare people about plutonium. I'm happy, I'd be more than happy to allow you guys to come through Michigan. I'd escort you myself. I'm, thank you very much. Good bye. Oh by the way, if you needed my phone, home phone number, it's (313) 640-0283.

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PD042

PD042-1**Parallex EA**

DOE acknowledges the commentor's support of transporting material through Michigan. Shipments of a small quantity of MOX fuel from LANL to Canada were part of a separate proposed action, the Parallex Project; therefore, it is beyond the scope of the proposed action analyzed in this SPD EIS. DOE has prepared an *Environmental Assessment for the Parallex Project Fuel Manufacture and Shipment* (DOE/EA-1216, January 1999) and FONSI, signed August 13, 1999, on fabrication of the MOX fuel and its transportation to Canada. This EA and FONSI can be viewed on the MD Web site at <http://www.doe-md.com>.

RESOLUTION

Charter Township of East China
County of St. Clair, Michigan

Minutes of a regular meeting of the Township Board of the Charter Township of East China, County of St. Clair, Michigan, held in the Township Hall, on the 3rd day of August, 1998, at 7:30 p.m., Eastern Daylight Savings Time.

PRESENT: Barker, Beaudua, Horn, Light, Parcell and Smith.

ABSENT: Trustee Randolph.

The following Resolution was offered by Member Light and supported by Member Horn.

**RESOLUTION
URGING THE UNITED STATES DEPARTMENT OF ENERGY
TO REFRAIN FROM TRANSPORTING
WEAPONS-USABLE FISSIONABLE MATERIAL
THROUGH MICHIGAN
AND ST. CLAIR COUNTY IN PARTICULAR**

WHEREAS, the United States Department of Energy is studying transportation options for moving weapons-usable fissile materials, including plutonium, for disposition. One of the three options under consideration is transporting the nuclear materials and fuel to Canada through Michigan utilizing the Blue Water Bridge at Port Huron; and

WHEREAS, there are many problems with transporting volatile and carcinogenic materials. The security and environmental risks are considerable and utilizing the Blue Water Bridge route would jeopardize the population of St. Clair County and the water supply of the Great Lakes; and

WHEREAS, there are many other suitable access points than the international water boundaries of Michigan. The western portions of the continent offer access that is much easier to secure and does not involve transportation through as many densely populated areas.

NOW, THEREFORE, BE IT RESOLVED, by the Charter Township of East China Board of Trustees, that we urge the United States Department of Energy to refrain from transporting weapons-usable fissile materials through Michigan and St. Clair County; and

BE IT FURTHER RESOLVED, that a copy of this resolution be forwarded to the United States Department of Energy Office of Fissile Materials Disposition and each of our appropriate federal and state elected officials.

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MD011

MD011-1

Parallex EA

The transportation of weapons-usable fissile materials through Michigan and St. Clair County is beyond the scope of the proposed action analyzed in this SPD EIS. Shipments of a small quantity of MOX fuel to Canada were part of a separate proposed action. DOE has prepared an *Environmental Assessment for the Parallex Project Fuel Manufacture and Shipment* (DOE/EA-1216, January 1999) and FONSI, signed August 13, 1999, on fabrication of the MOX fuel and its transportation to Canada. Because the Blue Water Bridge in Port Huron, Michigan, will be under renovation during the time of the proposed shipment, the route using that bridge was removed from consideration. This EA and FONSI can be viewed on the MD Web site at <http://www.doe-md.com>.


All resolutions and parts of resolution insofar as they conflict with the provisions of this resolution be and the same hereby are rescinded.

AYES: Barker, Beaudua, Horn, Light, Parcell and Smith.

NAYS: None.

ABSENT: Randolph.

RESOLUTION DECLARED ADOPTED



SANDRA A. SMITH, CLERK
CHARTER TOWNSHIP OF EAST CHINA

CERTIFICATION

I hereby certify that the foregoing is a true and correct copy of a Resolution adopted by the Township Board of the Charter Township of East China, St. Clair County, Michigan, at a regular meeting held on August 3, 1998, and that said meeting was conducted and public notice of said meeting was given pursuant to and in full compliance with the Open Meetings Act, being Act 267, Public Acts of Michigan, 1976, and that the minutes of said meeting were kept and have been or will be made available as required by said Act.



SANDRA A. SMITH, CLERK
CHARTER TOWNSHIP OF EAST CHINA

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MD011

RESOLUTION 98-05
EMMETT TOWNSHIP

A resolution to urge the United States Department of Energy to refrain from transporting weapons-usable fissile material through Michigan and St. Clair County in particular.

Whereas, The United States Department of Energy is studying transportation options for moving weapons-usable fissile materials, including plutonium, for disposition. One of the three options under consideration is transporting the nuclear materials and fuel to Canada through Michigan utilizing the Blue Water Bridge at Port Huron, and

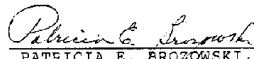
Whereas, There are many problems with transporting volatile and carcinogenic materials. The security and environmental risks are considerable and utilizing the Blue Water Bridge route would jeopardize the population of St. Clair County and the water supply of the Great Lakes; and

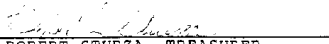
Whereas, There are many other suitable access points than the international water boundaries of Michigan. The western portions of the continent offer access that is much easier to secure and does not involve transportation through as many densely populated areas: now, therefore, be it

Resolved by the St. Clair County Board of Commissioners, That we urge the United States Department of Energy to refrain from transporting weapons-usable fissile materials through Michigan and St. Clair County; and it further be

Resolved, That a copy of this resolution be transported to the United States Department of Energy Office of Fissile Materials Disposition and each of our appropriate federal and state elected officials.


OWEN KEAN, SUPERVISOR


PATRICIA E. BROZOWSKI, CLERK


ROBERT STURZA, TREASURER


JOHN COWHY, TRUSTEE


DANIEL GREENIA, TRUSTEE

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MD013

MD013-1

Parallex EA

DOE acknowledges the commentors' concern with transportation of material through Michigan. The transportation of weapons-usable fissile materials through Michigan and St. Clair County is beyond the scope of the proposed action analyzed in this SPD EIS. Shipments of a small quantity of MOX fuel from LANL to Canada were part of a separate proposed action. DOE has prepared an *Environmental Assessment for the Parallex Project Fuel Manufacture and Shipment* (DOE/EA-1216, January 1999) and FONSI, signed August 13, 1999, on fabrication of the MOX fuel and its transportation to Canada. Because the Blue Water Bridge in Port Huron, Michigan, will be under renovation during the time of the proposed shipment, the route using that bridge was removed from consideration. This EA and FONSI can be viewed on the MD Web site at <http://www.doe-md.com>.

Hello, my name is Keith Gunter. I reside at 37232 Great Oaks Court, Clinton Township, Michigan 48036. I'm calling to request that the DOE do a 90 day extension on public comment on the plutonium/MOX issue. Would very much appreciate your giving us more of an opportunity to comment on this very important issue and also to take Representative David Bonior's advice for Michigan to have hearings in the Port Huron, Michigan/Canada, Ontario area. Thank you very much

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PD056

PD056-1**Parallex EA**

DOE acknowledges the commentor's concern regarding transportation of material through Michigan. The transportation of weapons-usable fissile materials through Michigan and St. Clair County is beyond the scope of the proposed action analyzed in this SPD EIS. Shipments of a small quantity of MOX fuel from LANL to Canada were part of a separate proposed action. DOE has prepared an *Environmental Assessment for the Parallex Project Fuel Manufacture and Shipment* (DOE/EA-1216, January 1999) and FONSI, signed August 13, 1999, on fabrication of the MOX fuel and its transportation to Canada. Because the Blue Water Bridge in Port Huron, Michigan, will be under renovation during the time of the proposed shipment, the route using that bridge was removed from consideration. This EA and FONSI can be viewed on the MD Web site at <http://www.doe-md.com>.

To provide for public comment on the SPD Draft EIS, DOE conducted public hearings near the potentially affected DOE sites and therefore, with the most directly concerned population. This decision did not preclude relevant comment by State and local governments, individuals, and organizations in Michigan. Approximately 1,700 copies of the SPD Draft EIS were mailed, and an NOA letter was mailed to an additional 5,500 members of the public. Several means were available for providing comments: public hearings, mail, a toll-free telephone and fax line, and the MD Web site. Equal consideration was given to all comments, regardless of how or where they were received. DOE does not believe that any extension of the comment period on the SPD Draft EIS is necessary. Moreover, DOE does not believe that a hearing in Michigan is necessary because none of the actions addressed in this SPD EIS would occur there.

RES 98-8-4

URGING THE UNITED STATES DEPARTMENT OF ENERGY TO REFRAIN FROM TRANSPORTING WEAPONS - USABLE FISSILE MATERIAL THROUGH MICHIGAN AND ST. CLAIR COUNTY IN PARTICULAR

WHEREAS, the United States Department of Energy is studying transportation options for moving weapons - usable fissile materials, including plutonium, for disposition. One of the three options under consideration is transporting the nuclear materials and fuel to Canada through Michigan utilizing the Blue Water Bridge at Port Huron; and

WHEREAS, there are many problems with transporting volatile and carcinogenic materials. The security and environmental risks are considerable and utilizing the Blue Water Bridge route would jeopardize the population of St. Clair County and the water supply on the Great Lakes; and

WHEREAS, there are many other suitable access points than the international water boundaries of Michigan. The western portions of the continent offer access that is much easier to secure and does not involve transportation through as many densely populated areas.

NOW, THEREFORE, BE IT RESOLVED, by the Ira Township Board, that we urge the United States Department of Energy to refrain from Transporting weapons - usable fissile materials through Michigan and St. Clair County; and

BE IT FURTHER RESOLVED, that a copy of this resolution be forwarded to the United States Department of Energy Office of Fissile Materials Disposition and each of our appropriate federal and state elected officials.

DATED: August 14, 1998

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MD116

MD116-1

Parallex EA

DOE acknowledges the commentors' concern with transportation of material through Michigan. The transportation of weapons-usable fissile materials through Michigan and St. Clair County is beyond the scope of the proposed action analyzed in this SPD EIS. Shipments of a small quantity of MOX fuel from LANL to Canada were part of a separate proposed action. DOE has prepared an *Environmental Assessment for the Parallex Project Fuel Manufacture and Shipment* (DOE/EA-1216, January 1999) and FONSI, signed August 13, 1999, on fabrication of the MOX fuel and its transportation to Canada. Because the Blue Water Bridge in Port Huron, Michigan, will be under renovation during the time of the proposed shipment, the route using that bridge was removed from consideration. This EA and FONSI can be viewed on the MD Web site at <http://www.doe-md.com>.

CERTIFICATION OF CLERK

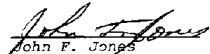
I hereby certify that the foregoing is a true and complete copy of a Resolution duly adopted by the Township Board of Ira Township, County of St. Clair, State of Michigan, at a regular meeting held on the 17th day of August, 1998 at which the following members were present: Thomas Jeannette, John Jones, Peter Vernier, Crystal Sovey and absent was Frieda Blackstock, and that said meeting was conducted and public notice of said meeting was given pursuant to and in full compliance with the Open Meetings Act, being Act 267, Public Acts of Michigan, 1976, and that the minutes of said meeting were kept and will be or have been made available as required by said Act.


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I further certify that member Crystal Sovey moved adoption of said Resolution and member Thomas Jeannette supported said motion.

I further certify that the following members voted for adoption of said Resolution: Jeannette, Jones, Vernier and Sovey and none voted against adoption of said Resolution.

I further certify that the said Resolution has been recorded in the Resolution Book of Ira Township, and that such recording has been authenticated by the signatures of the Township Supervisor and the Township Clerk.


John F. Jones
Supervisor


Frieda M. Blackstock
Clerk Deputy Clerk

Dated: August 17, 1998

MARINE CITY
HONORABLE ROBERT F. BEATTIE
PAGE 1 OF 1

City of Marine City
County of Saint Clair, Michigan

Resolution 98-27

Resolved by the City Commission of the City of Marine City, County of Saint Clair, Michigan, at their regular meeting held in the Guy Center, 303 S. Water Street, Marine City, Michigan, on August 6, 1998, at 7:00 P.M., a resolution urging the United States Department of Energy to refrain from transporting weapons-usable fissile material through Michigan and Saint Clair County in particular.

PRESENT: Beattie, Dunn, Fisher, Nasto, Negro, Petitpren
and Roehrig

ABSENT: None

The following preamble and resolution were offered by Commissioner Roehrig, and supported by Commissioner Dunn

WHEREAS, The United States Department of Energy is studying transportation options for moving weapons-usable fissile material, including plutonium, for disposition. One of the three options under consideration is transporting the nuclear materials and fuel to Canada through Michigan utilizing the Blue Water Bridge at Port Huron; and

WHEREAS, There are many problems with transporting volatile and carcinogenic materials. The security and environmental risks are considerable and utilizing the Blue Water Bridge route would jeopardize the population of St. Clair County and the water supply of the Great Lakes; and

WHEREAS, There are many other suitable access points than the international water boundaries of Michigan. The western portions of the continent offer access that is much easier to secure and does not involve transportation through as many densely populated areas; now

THEREFORE, BE IT RESOLVED, by the Marine City City Commission, That we urge the United States Department of Energy to refrain from transporting weapons-fissile materials through Michigan and Saint Clair County and from utilizing the Blue Water Ferry between the City of Marine City and Sombra, Canada; and

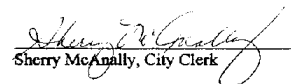
FURTHER BE IT RESOLVED, That a copy of this resolution be transported to the United States Department of Energy Office of Fissile Materials Disposition and each of our appropriate Federal and State elected officials.

Yeas: Beattie, Dunn, Fisher, Nasto, Negro, Petitpren and
Roehrig

Nays: None

ATTEST:


Robert F. Beattie, Mayor


Sherry McAnally, City Clerk

MD020

MD020-1

Parallex EA

DOE acknowledges the commentors' concern with transportation of material through Michigan. The transportation of weapons-usable fissile materials through Michigan and St. Clair County is beyond the scope of the proposed action analyzed in this SPD EIS. Shipments of a small quantity of MOX fuel from LANL to Canada were part of a separate proposed action. DOE has prepared an *Environmental Assessment for the Parallex Project Fuel Manufacture and Shipment* (DOE/EA-1216, January 1999) and FONSI, signed August 13, 1999, on fabrication of the MOX fuel and its transportation to Canada. Because the Blue Water Bridge in Port Huron, Michigan, will be under renovation during the time of the proposed shipment, the route using that bridge was removed from consideration. This EA and FONSI can be viewed on the MD Web site at <http://www.doe-md.com>.

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**CITY OF
 MARINE CITY**

300 Broadway
 MARINE CITY, MICHIGAN 48039
 (810) 765-8846 • Fax (810) 765-4010

August 7, 1998

U. S. Department of Energy
 Office of Fissile Materials Disposition
 P.O. Box 23786
 Washington, DC 20026-3786

Re: Michigan Public Hearing

Dear Sir:

It has come to our attention the Department of Energy is scheduling meetings in many states to take public comment on the disposition of fissile materials. The officials and residents of the City of Marine City are interested in this issue, as are many small towns and local governments, especially since one disposal route utilizes Michigan thoroughfares.

Please consider this a formal request to schedule public meetings in Michigan. It only makes sense to consider public comment elicited from government officials and residents of communities along a proposed disposal transportation route. To not do so would seem to imply disinterest or indifference to these local attitudes and opinions.

It is our collective opinion the Department of Energy is neither disinterested nor indifferent to local opinions concerning this matter. We hope the Department will demonstrate an interest by conducting public meetings here in Michigan. I hope to receive a timely response to this request that can be conveyed to the Marine City Commission and the City's residents. Please contact me at your earliest convenience in this regard.

Sincerely,

David Richards
 David Richards, City Manager

"In The Heart of Blue Water District"

MD105

MD105-1

Parallex EA

DOE acknowledges the commentor's concern regarding transportation of material through Michigan. The transportation of weapons-usable fissile materials through Michigan and St. Clair County is beyond the scope of the proposed action analyzed in this SPD EIS. Shipments of a small quantity of MOX fuel from LANL to Canada were part of a separate proposed action. DOE has prepared an *Environmental Assessment for the Parallex Project Fuel Manufacture and Shipment* (DOE/EA-1216, January 1999) and FONSI, signed August 13, 1999, on fabrication of the MOX fuel and its transportation to Canada. Because the Blue Water Bridge in Port Huron, Michigan, will be under renovation during the time of the proposed shipment, the route using that bridge was removed from consideration. This EA and FONSI can be viewed on the MD Web site at <http://www.doe-md.com>.

To provide for public comment on the SPD Draft EIS, DOE conducted public hearings near the potentially affected DOE sites and therefore, with the most directly concerned population. This decision did not preclude relevant comment by State and local governments, individuals, and organizations in Michigan. Approximately 1,700 copies of the SPD Draft EIS were mailed, and an NOA letter was mailed to an additional 5,500 members of the public. Several means were available for providing comments: public hearings, mail, a toll-free telephone and fax line, and the MD Web site. Equal consideration was given to all comments, regardless of how or where they were received. DOE does not believe that any extension of the comment period on the SPD Draft EIS is necessary. Moreover, DOE does not believe that a hearing in Michigan is necessary because none of the actions addressed in this SPD EIS would occur there.

#21-98

RESOLUTION

A RESOLUTION TO URGE THE UNITED STATES DEPARTMENT OF ENERGY TO REFRAIN FROM TRANSPORTING WEAPONS-USABLE FISSILE MATERIAL THROUGH MICHIGAN AND ST. CLAIR COUNTY IN PARTICULAR.

Moved by Councilman Maples supported by Councilman Orr to adopt the following Resolution:

WHEREAS, the United States Department of Energy is studying transportation options for moving weapons-usable fissile materials, including plutonium, for disposition. One of the three options under consideration is transporting the nuclear materials and fuel to Canada through Michigan utilizing the Blue Water Bridge at Port Huron; and

WHEREAS, there are many problems with transporting volatile and carcinogenic materials. The security and environmental risks are considerable and utilizing the Blue Water Bridge route would jeopardize the population of St. Clair County and the water supply of the Great Lakes; and

WHEREAS, there are many suitable access points other than the international water boundaries of Michigan. The western portions of the continent offer access that is much easier to secure and does not involve transportation through as many densely populated areas;

NOW, THEREFORE, BE IT RESOLVED that the Marysville City Council requests that the United States Department of Energy host a public meeting in the local affected area to explain the project and to receive public comment; and

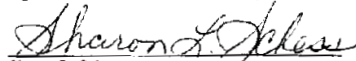
BE IT FURTHER RESOLVED that the sixty (60) day public comment period for this project, which is due to expire September 16, 1998, be extended to allow for a local public meeting; and

BE IT FURTHER RESOLVED that the Marysville City Council urges the United States Department of Energy to refrain from considering transporting weapons-usable fissile materials through Michigan and St. Clair County until said meeting can be held and public comment considered; and

BE IT FURTHER RESOLVED that a copy of this resolution be forwarded to the United States Department of Energy Office of Fissile Materials Disposition and each of our appropriate federal and state elected officials.

ADOPTED:

I hereby certify that the above is a true and correct copy of a resolution adopted at a regular meeting of the Marysville City Council on Monday, August 24, 1998.



Sharon L. Schess
City Clerk CMC

MD127

MD127-1

Parallex EA

DOE acknowledges the commentors' concern regarding transportation of material through Michigan. The transportation of weapons-usable fissile materials through Michigan and St. Clair County is beyond the scope of the proposed action analyzed in this SPD EIS. Shipments of a small quantity of MOX fuel from LANL to Canada were part of a separate proposed action. DOE has prepared an *Environmental Assessment for the Parallex Project Fuel Manufacture and Shipment* (DOE/EA-1216, January 1999) and FONSI, signed August 13, 1999, on fabrication of the MOX fuel and its transportation to Canada. Because the Blue Water Bridge in Port Huron, Michigan, will be under renovation during the time of the proposed shipment, the route using that bridge was removed from consideration. This EA and FONSI can be viewed on the MD Web site at <http://www.doe-md.com>.

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City of Memphis
"A pleasant place to live"

35095 Potter Street
P.O. Box 66
Memphis, Michigan 48041
810-392-2385
Fax: 810-392-3625

R E S O L U T I O N

URGING THE UNITED STATES DEPARTMENT OF ENERGY TO REFRAIN FROM
TRANSPORTING WEAPONS-USABLE FISSILE MATERIAL THROUGH MICHIGAN
AND ST. CLAIR COUNTY IN PARTICULAR

WHEREAS, the United States Department of Energy is studying
transportation options for moving weapons-usable fissile materials,
including plutonium, for disposition. One of the three options under
consideration is transporting the nuclear materials and fuel to Canada
through Michigan utilizing the Blue Water Bridge at Port Huron; and

WHEREAS, there are many problems with transporting volatile and
carcinogenic materials. The security and environmental risks are
considerable and utilizing the Blue Water Bridge route would jeopard-
ize the population of St. Clair County and the water supply of the
Great Lakes; and

WHEREAS, there are many other suitable access points than the
international water boundaries of Michigan. The western portions of
the continent offer access that is much easier to secure and does not
involve transportation through as many densely populated areas.

NOW, THEREFORE, BE IT RESOLVED, by the Memphis City Council, that
we urge the United States Department of Energy to refrain from tran-
sporting weapons-usable fissile materials through Michigan and St.
Clair County; and

BE IT FURTHER RESOLVED, that a copy of this resolution be for-
warded to the United States Department of Energy Office of Fissile
Materials Disposition and each of our appropriate federal and state
elected officials.


At a regular meeting of the City Council of the City of Memphis on the
4th day of August 1998, the following Councilmembers were present:

Garber, Horton, Hulett, Moran, Mayor Tatton, Walleman

and the following Councilmembers were absent:

Zukas

The within Resolution was moved by Councilmember Garber supported by
Councilmember Moran and adopted by a vote of 5 to 1.


Mary I. Brusca, City Clerk

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MD012

MD012-1

Parallex EA

DOE acknowledges the commentors' concern with transportation of material through Michigan. The transportation of weapons-usable fissile materials through Michigan and St. Clair County is beyond the scope of the proposed action analyzed in this SPD EIS. Shipments of a small quantity of MOX fuel from LANL to Canada were part of a separate proposed action. DOE has prepared an *Environmental Assessment for the Parallex Project Fuel Manufacture and Shipment* (DOE/EA-1216, January 1999) and FONSI, signed August 13, 1999, on fabrication of the MOX fuel and its transportation to Canada. Because the Blue Water Bridge in Port Huron, Michigan, will be under renovation during the time of the proposed shipment, the route using that bridge was removed from consideration. This EA and FONSI can be viewed on the MD Web site at <http://www.doe-md.com>.

MICHIGAN HOUSE OF REPRESENTATIVES
HONORABLE KAREN WILLARD
PAGE 1 OF 2

HOUSE OF REPRESENTATIVES
LANSING, MICHIGAN

92ND DISTRICT
STATE REPRESENTATIVE
KAREN WILLARD
STATE CAPITOL
LANSING, MICHIGAN 48913
5171 373-1600
1-800-421-8282

HOUSE MAJORITY WHIP
COMMITTEES
CHIEF CLERK
AND VETERANS AFFAIRS
AGRICULTURE
JUDICIARY
TOURISM

August 14, 1998

Mr. Howard Canter
U. S. Department of Energy
Office of Fissile Material Disposition
P. O. Box 23786
Washington, D.C. 20026-3786

Dear Mr. Canter:

I am writing to communicate my concerns regarding the safety of transporting weapons-grade plutonium fuel over the International Blue Water Bridge in Port Huron, Michigan. I am asking for a sixty day extension on the comment period, which will close on September 16, 1998. I am also requesting a public hearing to be held in the city of Port Huron. It is necessary that the Department of Energy give local residents a chance to seriously analyze the situation and be able to comment.

Michigan is considered one of the alternative routes of transportation of plutonium-based nuclear fuel to Canadian power plants. The route will go directly through my district, which includes Lapeer and St. Clair counties. There is a strong desire of many residents of my district, as well as other affected citizens in Michigan, to attend one of the public meetings to comment and simply gather more information. However, the closest public meeting was scheduled to take place in North Augusta, South Carolina on August 13, 1998. There are no workshops scheduled in the state of Michigan. It is not possible for the vast majority of those expressing concern in my district to attend a meeting so far from their homes and work places.

Also, I ask you to consider alternative routes of travel from the Western U. S. where there are many access points to Canada that do not involve international waterways and high population areas. This waterway is also a major connecting channel in the Great Lakes. The environmental and security risk factors involved in transporting this highly volatile nuclear fuel more than 2,000 miles over ground through some of the most densely populated areas of the U. S. and the state of Michigan are deeply concerning.

Again, I am requesting a public hearing on the issue in Michigan. Port Huron would be an excellent meeting place that would allow those affected to be a true part of the process. This is an issue that could have a dramatic effect on the lives of many residents in Michigan. I strongly urge you to allow for adequate comment and education on the issue before you make your final recommendations.

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MD025

MD025-1

Parallex EA

The transportation of weapons-usable fissile materials through Michigan and St. Clair County is beyond the scope of the proposed action analyzed in this SPD EIS. Shipments of a small quantity of MOX fuel to Canada were part of a separate proposed action. DOE has prepared an *Environmental Assessment for the Parallex Project Fuel Manufacture and Shipment* (DOE/EA-1216, January 1999) and FONSI, signed August 13, 1999, on fabrication of the MOX fuel and its transportation to Canada. Because the Blue Water Bridge in Port Huron, Michigan, will be under renovation during the time of the proposed shipment, the route using that bridge was removed from consideration. This EA and FONSI can be viewed on the MD Web site at <http://www.doe-md.com>.

To provide for public comment on the SPD Draft EIS, DOE conducted public hearings near the potentially affected DOE sites and therefore, with the most directly concerned population. This decision did not preclude relevant comment by State and local governments, individuals, and organizations in Michigan. Approximately 1,700 copies of the SPD Draft EIS were mailed, and an NOA letter was mailed to an additional 5,500 members of the public. Several means were available for providing comments: public hearings, mail, a toll-free telephone and fax line, and the MD Web site. Equal consideration was given to all comments, regardless of how or where they were received. DOE does not believe that any extension of the comment period on the SPD Draft EIS is necessary. Moreover, DOE does not believe that a hearing in Michigan is necessary because none of the actions addressed in this SPD EIS would occur there.

MICHIGAN HOUSE OF REPRESENTATIVES
HONORABLE KAREN WILLARD
PAGE 2 OF 2

Thank you for the opportunity to express my views on this important issue. I hope that you will seriously consider my input.

Sincerely,



Karen Willard
State Representative
82nd District

MD025



OFFICE OF THE MAYOR
CITY OF PORT HURON
100 MCMORRAN BOULEVARD, PORT HURON, MICHIGAN 48060
PHONE: 810-984-9740; FAX: 810-952-0282

August 17, 1998

U. S. Department of Energy
Office of Fissile Materials
P.O. Box 23786
Washington, DC 20026-3786

Dear Energy Officials:

It has come to our attention that the U. S. Department of Energy is studying transportation options for moving nuclear materials and fuel to Canada through Michigan utilizing the Blue Water Bridge in Port Huron.

At the Port Huron City Council's last meeting, the enclosed resolution was unanimously adopted. The Council and residents of our community and surrounding area are interested in hearing an explanation of the project and to be able to provide public comment on this matter.

We would appreciate your cooperation in arranging such a meeting. Please give me a call if you have any questions or concerns.

Sincerely,

Gerald "Ajax" Ackerman
Mayor

GA/smc

Enclosure

MD053

MD053-1

Parallex EA

The transportation of weapons-usable fissile materials through Michigan and St. Clair County is beyond the scope of the proposed action analyzed in this SPD EIS. Shipments of a small quantity of MOX fuel to Canada were part of a separate proposed action. DOE has prepared an *Environmental Assessment for the Parallex Project Fuel Manufacture and Shipment* (DOE/EA-1216, January 1999) and FONSI, signed August 13, 1999, on fabrication of the MOX fuel and its transportation to Canada. Because the Blue Water Bridge in Port Huron, Michigan, will be under renovation during the time of the proposed shipment, the route using that bridge was removed from consideration. This EA and FONSI can be viewed on the MD Web site at <http://www.doe-md.com>.

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PORT HURON
HONORABLE GERALD "AJAX" ACKERMAN
PAGE 2 OF 2

Resolution # 27
August 10, 1998

Councilmember Miller offered and moved the adoption of the following resolution:

WHEREAS, the United States Department of Energy is studying transportation options for moving weapons-usable fissile materials, including plutonium, for disposition. One of the three options under consideration is transporting the nuclear materials and fuel to Canada through Michigan utilizing the Blue Water Bridge at Port Huron; and

WHEREAS, there are many problems with transporting volatile and carcinogenic materials. The security and environmental risks are considerable and utilizing the Blue Water Bridge route would jeopardize the population of St. Clair County and the water supply of the Great Lakes; and

WHEREAS, there are many suitable access points other than the international water boundaries of Michigan. The western portions of the continent offer access that is much easier to secure and does not involve transportation through as many densely populated areas;

NOW, THEREFORE, BE IT RESOLVED that the Port Huron City Council requests that the United States Department of Energy host a public meeting in the local affected area to explain the project and to receive public comment; and

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BE IT FURTHER RESOLVED that the sixty (60) day public comment period for this project, which is due to expire September 16, 1998, be extended to allow for a local public meeting; and

BE IT FURTHER RESOLVED that the Port Huron City Council urges the United States Department of Energy to refrain from considering transporting weapons-usable fissile materials through Michigan and St. Clair County until said meeting can be held and public comment considered; and

BE IT FURTHER RESOLVED that a copy of this resolution be forwarded to the United States Department of Energy Office of Fissile Materials Disposition and each of our appropriate federal and state elected officials.

ADOPTED/REJECTED *UNANIMOUSLY*

I hereby certify that the above is a true and correct copy of a resolution adopted at a regular meeting of the Port Huron City Council on Monday, August 10, 1998.


Pauline M. Repp, CMC
City Clerk

MD053

SISTERS, SERVANT OF THE IMMACULANT HEART OF MARY
MARTHA RABAUT
PAGE 1 OF 1

Sisters, Servant of the Immaculate Heart of Mary
610 West Elm Ave.
Monroe, MI 48162

To: The Department of Energy
Regarding: Mixed Oxide Fuel

We are very concerned about the proposed plans to test and possibly allow the use of mixed oxide fuel. Please grant a 90 day extension for comments on this issue. The gravity of the issue warrants further time for public education and comment.

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We are very grateful for your consideration of this matter.

Sincerely,

Martha Rabaut, I.H.M.

Martha Rabaut, I.H.M.
Eco Justice Office of the Sisters,
Servant of the Immaculate Heart of Mary

FD309

FD309-1

General SPD EIS and NEPA Process

The comment period for the SPD Draft EIS extended from July 17 through September 16, 1998. During that time, DOE convened five public hearings comprising afternoon and evening workshops to obtain oral and written comments from the public. It also accepted comments submitted by various other means: mail, a toll-free telephone and fax line, and the MD Web site. In view of the ample opportunities to comment and the urgency of the surplus plutonium disposition program, the comment period was not extended.

St. Clair
HONORABLE BERNARD E. KUHN
PAGE 1 OF 2

RESOLUTION NO. 98-19

CITY OF ST. CLAIR
ST. CLAIR COUNTY, MICHIGAN

**URGING THE UNITED STATES DEPARTMENT OF ENERGY TO
REFRAIN FROM TRANSPORTING WEAPONS-USABLE FISSILE MATERIAL
THROUGH MICHIGAN, AND ST. CLAIR COUNTY IN PARTICULAR**

WHEREAS, the United States Department of Energy is studying transportation options for moving weapons-usable fissile materials, including plutonium, for disposition. One of the three options under consideration is transporting the nuclear materials and fuel to Canada through Michigan utilizing the Blue Water Bridge at Port Huron; and

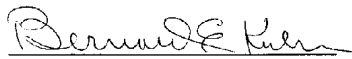
WHEREAS, there are many problems with transporting volatile and carcinogenic materials. The security and environmental risks are considerable and utilizing the Blue Water bridge route would jeopardize the population of St. Clair County and the water supply of the Great Lakes; and

WHEREAS, there are many other suitable access points than the international water boundaries of Michigan. The western portions of the continent offer access that is much easier to secure and does not involve transportation through as many densely populated areas.

NOW, THEREFORE, BE IT RESOLVED by the St. Clair City Council, that we urge the United States Department of Energy to refrain from transporting weapons-usable fissile materials through Michigan and St. Clair County; and

BE IT FURTHER RESOLVED, that a copy of this resolution be forwarded to the United States Department of Energy of Fissile Materials Disposition and each of our appropriate federal and state elected officials.

RESOLUTION DECLARED ADOPTED


BERNARD E. KUHN, MAYOR
CITY OF ST. CLAIR, MICHIGAN

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MD084

MD084-1

Parallex EA

DOE acknowledges the commentors' concern with transportation of material through Michigan. The transportation of weapons-usable fissile materials through Michigan and St. Clair County is beyond the scope of the proposed action analyzed in this SPD EIS. Shipments of a small quantity of MOX fuel from LANL to Canada were part of a separate proposed action. DOE has prepared an *Environmental Assessment for the Parallex Project Fuel Manufacture and Shipment* (DOE/EA-1216, January 1999) and FONSI, signed August 13, 1999, on fabrication of the MOX fuel and its transportation to Canada. Because the Blue Water Bridge in Port Huron, Michigan, will be under renovation during the time of the proposed shipment, the route using that bridge was removed from consideration. This EA and FONSI can be viewed on the MD Web site at <http://www.doe-md.com>.

CERTIFICATION

The foregoing is a true and complete copy of a Resolution adopted by the City Council of the City of St. Clair, County of St. Clair, State of Michigan, at a regular meeting of the City Council held on the 3rd day of August 1998, and public notice of said Meeting was given pursuant to and in accordance with the requirements of Act No. 267 of the Public Acts of 1976, as amended, the same being the Open Meetings Act, and the Minutes of said meeting have been or will be made available as required by said Act.


Members Present: Mayor Kuhn, Members Ellery, Ferlito, LaPorte, Stablein, Stockhausen
Members Absent: Cedar

It was moved by Member Ellery and supported by Member LaPorte to adopt the resolution.

Members Voting Yes: Stablein, Stockhausen, Ellery, Ferlito, Kuhn, LaPorte

Members Voting No: None

The Resolution was declared adopted by the Mayor and has been duly recorded in the Resolution Book of the City of St. Clair.



JANICE B. WINN, CITY CLERK
CITY OF ST. CLAIR, MICHIGAN

MD084

ST. CLAIR COUNTY
LEE MASTERS ET AL.
PAGE 1 OF 1

AUG 8 1998

RESOLUTION 98-29

URGING THE UNITED STATES DEPARTMENT OF ENERGY TO REFRAIN FROM TRANSPORTING WEAPONS-USABLE FISSILE MATERIAL THROUGH MICHIGAN AND ST. CLAIR COUNTY IN PARTICULAR

WHEREAS, the United States Department of Energy is studying transportation options for moving weapons-usable fissile materials, including plutonium, for disposition. One of the three options under consideration is transporting the nuclear materials and fuel to Canada through Michigan utilizing the Blue Water Bridge at Port Huron; and

WHEREAS, there are many problems with transporting volatile and carcinogenic materials. The security and environmental risks are considerable and utilizing the Blue Water Bridge route would jeopardize the population of St. Clair County and the water supply of the Great Lakes; and

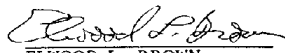
WHEREAS, there are many other suitable access points than the international water boundaries of Michigan. The western portions of the continent offer access that is much easier to secure and does not involve transportation through as many densely populated areas.


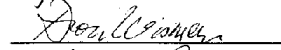
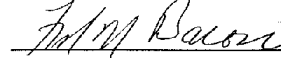
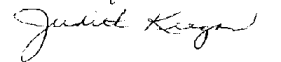
NOW, THEREFORE, BE IT RESOLVED, by the St. Clair County Board of Commissioners, that we urge the United States Department of Energy to refrain from transporting weapons-usable fissile materials through Michigan and St. Clair County; and

BE IT FURTHER RESOLVED, that a copy of this resolution be forwarded to the United States Department of Energy Office of Fissile Materials Disposition and each of our appropriate federal and state elected officials.

DATED: July 22, 1998

Reviewed and Approved by:


ELWOOD L. BROWN
County Corporation Counsel
301 County Building
Port Huron, MI 48060

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MD004

MD004-1

Parallex EA

DOE acknowledges the commentors' concern with transportation of material through Michigan. The transportation of weapons-usable fissile materials through Michigan and St. Clair County is beyond the scope of the proposed action analyzed in this SPD EIS. Shipments of a small quantity of MOX fuel from LANL to Canada were part of a separate proposed action. DOE has prepared an *Environmental Assessment for the Parallex Project Fuel Manufacture and Shipment* (DOE/EA-1216, January 1999) and FONSI, signed August 13, 1999, on fabrication of the MOX fuel and its transportation to Canada. Because the Blue Water Bridge in Port Huron, Michigan, will be under renovation during the time of the proposed shipment, the route using that bridge was removed from consideration. This EA and FONSI can be viewed on the MD Web site at <http://www.doe-md.com>.

ST. CLAIR TOWNSHIP
1539 S. Bartlett Rd., St. Clair, MI 48079
Phone (810) 329-9042 Fax (810) 329-1198

ST. CLAIR TOWNSHIP
RESOLUTION

WHEREAS, the United States Department of Energy is studying transportation options for moving weapons-usable fissile materials, including plutonium for disposition. One of the three options under consideration is transporting the nuclear materials and fuel to Canada through Michigan utilizing the Blue Water Bridge at Port Huron; and

WHEREAS, there are many problems with transporting volatile and carcinogenic materials. The security and environmental risks are considerable and utilizing the Blue Water Bridge route would jeopardize the population of St. Clair County and the water supply of Great Lakes; and

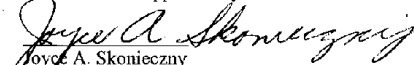
WHEREAS, there are many other suitable access points than the international water boundaries of Michigan. The western portions of the continent offer access that is much easier to secure and does not involve transportation through as many densely populated areas.

NOW, THEREFORE, BE IT RESOLVED, by the St. Clair Township Board, that we urge the United States Department of Energy to refrain from transporting weapons-usable fissile materials through Michigan and St. Clair County; and

BE IT FURTHER RESOLVED, that a copy of this resolution be forwarded to the United States Department of Energy Office of Fissile Materials Disposition and each of our appropriate federal and state elected officials.

Dated: August 3, 1998

Reviewed and Approved by:


Joyce A. Skonieczny
Clerk

MD015

MD015-1

Parallex EA

DOE acknowledges the commentors' concern with transportation of material through Michigan. The transportation of weapons-usable fissile materials through Michigan and St. Clair County is beyond the scope of the proposed action analyzed in this SPD EIS. Shipments of a small quantity of MOX fuel from LANL to Canada were part of a separate proposed action. DOE has prepared an *Environmental Assessment for the Parallex Project Fuel Manufacture and Shipment* (DOE/EA-1216, January 1999) and FONSI, signed August 13, 1999, on fabrication of the MOX fuel and its transportation to Canada. Because the Blue Water Bridge in Port Huron, Michigan, will be under renovation during the time of the proposed shipment, the route using that bridge was removed from consideration. This EA and FONSI can be viewed on the MD Web site at <http://www.doe-md.com>.

STATEWIDE PUBLIC ADVISORY COUNCIL
 KATHY EVANS
 PAGE 1 OF 1



STATEWIDE PUBLIC ADVISORY COUNCIL

September 24, 1998

Mr. Howard R. Canter
 Acting Director
 Office of Fissile Materials Disposition
 Department of Energy
 P.O. Box 23786
 Washington, D.C. 20026-3786

RE: Public Review of Surplus Plutonium Disposition Draft Environmental Impact Statement

Dear Mr. Canter:

I am writing on behalf of the Statewide Public Advisory Council for Michigan's Areas of Concern Program to express support for the recent request from the St. Clair River Binational Public Advisory Council (BPAC) for an additional 60 days for public review and comment on the plan to ship surplus plutonium across the Bluewater Bridge linking the United States and Canada. The BPAC has also requested that a public meeting be held in the local area to provide information and respond to questions on the proposal.

The Statewide Public Advisory Council (SPAC) includes representatives from the 14 Areas of Concern (AOC) in the State of Michigan designated pursuant to the U.S.-Canada Great Lakes Water Quality Agreement. The SPAC provides advice and input to the State of Michigan regarding the statewide AOC Program, coordinates the exchange of information among the state's 14 AOCs, and works to support the efforts of the local public advisory councils to restore environmental quality in the AOCs.

At its September 12, 1998 meeting the SPAC was briefed on the St. Clair River BPAC's concerns about the plan to ship surplus plutonium across the Bluewater Bridge and their request for an extension of the public comment period and for a public meeting on the issue. The SPAC approved a motion supporting the BPAC's request and the purpose of this letter is to formally convey this position to your office. By extending the public comment period and holding a public meeting in the local area, the U.S. and Canadian federal governments will be able to share information with and receive input on the proposed shipment from the many American and Canadian citizens working to restore environmental quality in the St. Clair River.

The SPAC appreciates your attention to this request and looks forward to your response. I cc 773-0008; please respond to the address provided below.

Sincerely,

Kathy Evans
 Vice Chair
 Statewide Public Advisory Council

cc: Fred Kemp, United States Chair, St. Clair River BPAC
 Bob Lalonde, Canadian Chair, St. Clair River BPAC
 Members, Statewide Public Advisory Council
 Richard Hobrla, Chief, Remedial Action Unit, Michigan Department of Environmental Quality

c/o Great Lakes Commission • The Argus II Building • 400 Fourth St. • Ann Arbor, MI 48103-4816
 Phone: (313) 665-9135 • Fax: (313) 665-4370 • Email: SPAC@glc.org

Printed on recycled paper.

MD324

MD324-1

Parallex EA

DOE acknowledges the commentor's concern with transportation of material through Michigan. The transportation of weapons-usable fissile materials through Michigan and St. Clair County is beyond the scope of the proposed action analyzed in this SPD EIS. Shipments of a small quantity of MOX fuel from LANL to Canada were part of a separate proposed action. DOE has prepared an *Environmental Assessment for the Parallex Project Fuel Manufacture and Shipment* (DOE/EA-1216, January 1999) and FONSI, signed August 13, 1999, on fabrication of the MOX fuel and its transportation to Canada. Because the Blue Water Bridge in Port Huron, Michigan, will be under renovation during the time of the proposed shipment, the route using that bridge was removed from consideration. This EA and FONSI can be viewed on the MD Web site at <http://www.doe-md.com>.

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Good morning, my name is Greg Zolae, I'm a voter in Comstock, MI. Just recently received some information about MOX fuel transportation and I would like to get some more information, if I could. I would also like to strongly suggest that there is an extension for public comment on the transportation of MOX fuel so that folks that are going to be affected by it can find out more about it and can voice their opinions. My temporary mailing address is Greg Zolae, 3 Fairlake Lane, Gross Point Shores, Michigan 48236. Again, I would like to request a 90 day extension on the public comment on the transportation of MOX fuel. It would be really good for us to have a little bit more time to learn from you what it's about and to tell you what we think. Thank you very much.

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PD055

PD055-1

Parallex EA

DOE acknowledges the commentor's concern regarding transportation of material through Michigan. The transportation of weapons-usable fissile materials through Michigan and St. Clair County is beyond the scope of the proposed action analyzed in this SPD EIS. Shipments of a small quantity of MOX fuel from LANL to Canada were part of a separate proposed action. DOE has prepared an *Environmental Assessment for the Parallex Project Fuel Manufacture and Shipment* (DOE/EA-1216, January 1999) and FONSI, signed August 13, 1999, on fabrication of the MOX fuel and its transportation to Canada. Because the Blue Water Bridge in Port Huron, Michigan, will be under renovation during the time of the proposed shipment, the route using that bridge was removed from consideration. This EA and FONSI can be viewed on the MD Web site at <http://www.doe-md.com>.

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140 ARBORWAY, STE. 6, BOSTON, MA 02130-3522 USA
(617) 524-1342 • fax (617) 524-1347 • contact@ifnotnow.com

To: DOE, Fax 18008205156
From: If Not Now: A Citizens Lobbying Tool, EMail rep-info@ifnotnow.com
Date: Sep 10, 1998 13:44 GMT
Subject: Plutonium Disposal By Burning In Nuclear Reactors

If Not Now is a web-based citizen's lobbying tool. We are forwarding to you a letter from some of your constituents. At the end of this message there is a description of how our service works and how you can respond to your constituents.

Signatures as of Sep 10, 1998:
There were 2 new signers. Total signers to date: 2.

TOPIC: Plutonium Disposal By Burning In Nuclear Reactors

Dear DOE (Fissile Materials Program),

I am writing to oppose the current Department of Energy plan for plutonium disposition, which is based on mixed-oxide (MOX) fuel. MOX fuel is a bad idea. It is unproven technology as far as commercial reactors in the U.S. are concerned. MOX techniques for plutonium disposal are also slower and more expensive than immobilization techniques. In addition, the treatment of plutonium as an energy source sets a dangerous precedent for nuclear proliferation and the development of plutonium fuel economies. It is essential that the DOE do everything possible to discourage this proliferation.

New signers and comments:

Scott Bonner, Boise, ID 83702
Amy Hobbs, Springfield, MO 65806

DESCRIPTION OF IF NOT NOW SERVICE

Subscribers use If Not Now (www.ifnotnow.com) to get information about political and social issues of concern to them. The service also enables them to sign letters about these topics, which we then forward in consolidated form to officials such as yourself. It is important to emphasize that our subscriber list is authenticated through credit card verification, and only those signers who belong to your specific constituency are included in the signature list that you receive.

FD300

FD300-1

MOX Approach

DOE acknowledges the commentor's opposition to the MOX approach to surplus plutonium disposition. While it is true MOX fuel has not been produced commercially in the United States, it has been produced in Western Europe. MOX fuel fabrication is not a new technology. This experience would be used for disposition of the U.S. surplus plutonium. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

Any difference between the cost of the hybrid approach and that of the immobilization-only approach would be marginal. Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyses the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

1



140 ARBORWAY, STE. 6, BOSTON, MA 02130-3522 USA
(617) 524-1342 • fax (617) 524-1347 • contact@ifnotnow.com

An important feature of If Not Now is that we follow up on every action letter that we send, and we report how representatives, officials and others have acted on the issue. We also provide you with the opportunity to respond to your constituents (via a password-protected web server, to ensure that only legitimate responses are posted). Follow the directions below. Your letter will be posted without editing; your constituents will be able to view your response when they check the results of that action. (We regret that we cannot process responses received via fax or US mail.) We strongly encourage you to send us a response! Our subscribers are active, involved citizens who want to hear from you.

To respond to an action letter: fill out the form at <http://www.ifnotnow.com/respond.html> -- you will need to use your special key: PeeTJlwV. This key is valid for one-time use only. Please send questions or comments via email to: rep-info@ifnotnow.com.

FD300

<input checked="" type="checkbox"/>	YES!	Keep Texas Panhandle water, air, and soil safe from radioactive pollutants	1
<input checked="" type="checkbox"/>	NO!	To any plutonium processing in the Texas Panhandle <i>OR ANYWHERE ELSE!</i>	2
<input checked="" type="checkbox"/>	YES!	To minimal handling and processing of plutonium and other nuclear materials	3
<input checked="" type="checkbox"/>	NO!	To converting military plutonium for use in mixed oxide (MOX) fuel	4

*How DARE you MAKE US PAY FOR THIS
STOP PRODUING THIS DEADLY
poison*

Signed: *Michele Bush
Silver City NV.*

CD1358

CD1358-1

Alternatives

Sections 4.17 and 4.26.3 describe the potential effects of the maximum impact alternative on air quality, water resources, and soil. These analyses indicate that the impacts of construction and normal operation of the pit conversion and MOX facilities on air, water, and soil at Pantex would likely be minor.

CD1358-2

Alternatives

DOE acknowledges the commentor's opposition to the surplus plutonium disposition program at Pantex. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

CD1358-3

DOE Policy

The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. DOE is committed to public and worker safety during the construction, operation, and deactivation of the proposed surplus plutonium disposition facilities, and would implement appropriate controls and procedures to ensure compliance with all applicable Federal, State, and local laws, rules, regulations, and requirements.

CD1358-4

MOX Approach

DOE acknowledges the commentor's opposition to the MOX approach to surplus plutonium disposition. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in weapons again.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

Hi. I'm calling Donna Menace and I want to thank her very much for calling me back. The way, my address is PO Box 2598 and its Pahrump, NV 89041. I'm interested in whatever it is she want to send me because I do want to make commentary. I'm very concerned about the MOX and if it can't be used in the light water reactors, so whatever you do is right. And I look forward to hearing from you. I've been out of town and that's why I didn't return your call sooner. Thank you again. My number is (702) 727-6853 if you want to call. And the best time I will be home in the morning. Thank you. Bye

1

PD032

PD032-1

MOX Approach

DOE acknowledges the commentor's concern regarding the MOX approach. The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. Converting the surplus plutonium into MOX fuel and using it in domestic, commercial reactors is an effective way to accomplish this. Consistent with the U.S. policy of discouraging the civilian use of plutonium, a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation would be a once-through cycle with no reprocessing.

GOODMAN, SIDNEY J.
PAGE 1 OF 1

170 Villanova Drive
Paramus, NJ 07652
July 31, 1998

Executive Director
U.S. Department of Energy
Washington, DC

Dear Director:

I am vehemently opposed to the use of MOX fuel in civilian nuclear power plants.

There are already serious problems of unaccounted for sensitive materials without putting weapons grade plutonium in mass circulation.

Every step in the direction of putting us on a plutonium economy risks unconscionable environmental, economic, and weapons proliferation problems.

The nuclear industry has failed miserably in its responsibility to the general welfare.

The last thing we need now is another arrogant, corrupt blunder.

Very truly yours,

Sidney J. Goodman, P.E.

Sidney J. Goodman, P.E.
Professional Engineer

FD173

FD173-1

MOX Approach

DOE acknowledges the commentator's opposition to the commercial use of weapons-usable plutonium. The proposed use of MOX fuel is consistent with the nonproliferation policy and would ensure that plutonium which was produced for nuclear weapons and subsequently declared excess to national security needs is never again used for nuclear weapons. Consistent with the U.S. policy of discouraging the civilian use of plutonium, a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation would be a once-through cycle with no reprocessing.

1

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
LAWRENCE SCHMIDT
PAGE 1 OF 1



State of New Jersey

Christine Todd Whitman
Governor

Department of Environmental Protection

Robert C. Shinn, Jr.
Commissioner

Office of Program Coordination
PO Box 418
Trenton, NJ 08625-0418
Phone 609-292-2662
Fax 609-777-0942

August 25, 1998

Mr. G. Bert Stevenson
NEPA Compliance Officer
Office of Fissile Materials Disposition
U.S. Department of Energy
P.O. Box 23786
Washington, D.C. 20026-3786

RE: **COMMENTS**
Surplus Plutonium Disposition Draft EIS
DOE/EIS-0283-D

Dear Mr. Stevenson:

The Office of Program Coordination of the New Jersey Department of Environmental Protection (NJDEP) has completed its review of the Draft Environmental Impact Statement (EIS) for Surplus Plutonium Disposition. None of the three proposed sites are in the Northeast, consequently our Department's Radiation Protection Programs foresees no environmental impact to New Jersey, at this time, from the siting, construction or operation of any of the facilities. In addition, they foresee no increase in transportation of radioactive materials in New Jersey as result of this action.

1

However, one alternative facility would produce Mixed Oxide Fuel (MOX). This fuel would be manufactured as fuel for a commercial nuclear power plant. As stated in the Draft EIS, specific reactor sites where this fuel will be used have not been identified. The Final EIS will include an environmental impact analysis related to specific reactors selected. Thus, there is no indication, at this time, if any nuclear power plants in New Jersey will utilize MOX fuel.

2

Please send the Office of Program Coordination two copies of the Final EIS, when it becomes available, so that we can review potential environmental impacts associated with the use of MOX fuel in New Jersey.

Sincerely,

Lawrence Schmidt
Director
Office of Program Coordination

C: Jill Lipoti, NJDEP

MD115-1

Alternatives

DOE acknowledges the commentor's conclusions that the surplus plutonium disposition program would not impact the State of New Jersey.

MD115-2

MOX Approach

Section 4.28 was revised to discuss the potential environmental impacts of using MOX fuel in the six reactors proposed for the MOX approach. None of the proposed reactors are in New Jersey, they are: Catawba Nuclear Station Units 1 and 2 in South Carolina, McGuire Nuclear Station Units 1 and 2 in North Carolina, and North Anna Power Station Units 1 and 2 in Virginia.

I would like to submit the following comments for ~~the scoping on~~ the Surplus Plutonium Disposition Environmental Impact Statement:

- 1) The mixed-oxide (MOX) nuclear fuel option has a negative economic value, will result in unnecessary subsidies to nuclear power utilities, and is experiencing grave technical challenges. A range of immobilization options need to be addressed as more viable for disposition. 1
- 2) Plutonium processing has never occurred at Pantex and for this reason it is a relatively clean site. I believe it is unwise to locate plutonium processing at a site with no processing and minimal nuclear waste treatment experience, especially one located over a major aquifer and in the middle of rich agricultural producing land. 2
- 3) Environmental, safety, and health impacts must be fully identified and analyzed, including quantity and composition of waste streams, potential accident scenarios, and consequences of accidents. 3
- 4) The impact on the area agricultural economy needs to be addressed at length in this document. 4

Signed

Kathryn Albrecht, NM

CD1700

CD1700-1

Alternatives

Use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors.

The fabrication of MOX fuel and its use in commercial reactors has been accomplished in Western Europe. This experience would be used for disposition of the U.S. surplus plutonium.

The MOX facility would produce nuclear fuel that would displace LEU fuel that utilities would have otherwise purchased. If the effective value of the MOX fuel exceeds the cost of the LEU fuel that it displaced, then the contract provides that money would be paid back to the U.S. Government by DCS based on a formula included in the DCS contract. The commercial reactors selected for the MOX approach include only those reactors whose operational life is expected to last beyond the life of the surplus plutonium disposition program.

DOE has identified as its preferred alternative the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

CD1700-2

Alternatives

DOE acknowledges the commentor's opposition to siting the proposed surplus plutonium disposition facilities at Pantex. The analyses presented in

Section 4.26.3.2.2 indicate that there would be no discernible impacts on the quality of water in the Ogallala aquifer from normal operation of these facilities. Other sections show, moreover, that the normal operation of these facilities would likely have minor impacts on human health, agriculture, and livestock: Sections 4.17.1.4 and 4.17.2.4 address the potential radiological and hazardous chemical effects of the maximum-impact alternative on workers and the public at Pantex; Appendix J.3, the potential contamination of agricultural products and livestock, and consumption of these products by persons living within an 80-km (50-mi) radius of Pantex.

CD1700-3 **General SPD EIS and NEPA Process**

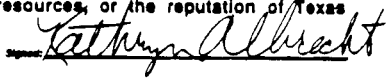
DOE has prepared this SPD EIS in accordance with the provisions of NEPA (42 U.S.C. 4321 et seq.) and the related CEQ and DOE implementation regulations (40 CFR 1500 through 1508 and 10 CFR 1021, respectively). DOE has analyzed the potential environmental impacts of waste management, human health risks, and facility accidents associated with the proposed surplus plutonium disposition facilities as discussed in Appendixes H, J, and K, respectively.

CD1700-4 **General SPD EIS and NEPA Process**

This comment is addressed in responses CD1700-2 and CD1700-3.

<input checked="" type="checkbox"/>	NO! To plutonium processing in the Texas Panhandle.	1
<input checked="" type="checkbox"/>	NO! To bringing plutonium to Pantex from other sites.	2
<input checked="" type="checkbox"/>	NO! To long-term storage of plutonium over the Ogallala Aquifer.	1
<input checked="" type="checkbox"/>	NO! To facilities that handle nuclear waste or to processes that generate it.	3

I support jobs and development in the Panhandle that don't endanger workers, my family, our natural resources, or the reputation of Texas agricultural products.



CD1701

CD1701-1

Alternatives

DOE acknowledges the commentor's opposition to the surplus plutonium disposition program at Pantex. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

CD1701-2

DOE Policy

DOE acknowledges the commentor's concern regarding the safe storage of plutonium pits at Pantex. DOE is committed to the safe, secure storage of pits and is evaluating options for upgrades to Pantex Zone 4 facilities to address plutonium storage requirements. Evaluation of repackaging Pantex pits into a more robust container is documented in the *Supplement Analysis for: Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components—AL-R8 Sealed Insert Container* (August 1998). This document is on the MD Web site at <http://www.doe-md.com>. Based on this supplement analysis, the decision was made to repackage pits at Pantex into the AL-R8 sealed insert container and to discontinue plans to repackage pits into the AT-400A container.

CD1701-3

Alternatives

DOE acknowledges the commentor's support of new missions at Pantex that don't endanger people or the environment. The analyses presented in Section 4.26.3.2.2 indicate that there would be no discernible impacts on the quality of water in the Ogallala aquifer from normal operation of the proposed surplus plutonium disposition facilities. Other sections show, moreover, that the normal operation of these facilities would likely have minor impacts on human health, agriculture, and livestock; Sections 4.17.1.4 and 4.17.2.4 address the potential radiological and hazardous chemical effects of the maximum-impact alternative on workers and the public at Pantex; Appendix J.3, the potential contamination of agricultural products and livestock, and consumption of these products by persons living within an 80-km (50-mi) radius of Pantex.

NEW MEXICO ENVIRONMENT DEPARTMENT
GEDI CIBAS
 PAGE 1 OF 2



GARY E. JOHNSON
 GOVERNOR

State of New Mexico
ENVIRONMENT DEPARTMENT
 Harold Runnels Building
 1190 St. Francis Drive, P.O. Box 26110
 Santa Fe, New Mexico 87502-6110
 Telephone (505) 827-2855
 Fax (505) 827-2836



PETER MAGGIORE
 Secretary

September 23, 1998

Howard R. Canter
 Acting Director
 Office of Fissile Materials Disposition
 U.S. Department of Energy
 P.O. Box 23786
 Washington, D.C. 20026-3786

Dear Mr. Canter:

RE: **SURPLUS PLUTONIUM DISPOSITION DRAFT ENVIRONMENTAL IMPACT STATEMENT;
 OFFICE OF FISSILE MATERIALS DISPOSITION, U.S. DEPARTMENT OF ENERGY; JULY
 1998**

This transmits New Mexico Environment Department (NMED) staff comments regarding the above-referenced Draft Environmental Impact Statement (DEIS).

(1) Volume 1, Part A, Page 1-5 **Issues that Need to Be or Are Already Addressed Elsewhere**. The Nuclear Regulatory Commission should be involved, and their regulations be complied with, in all aspects of the Mixed Oxide (MOX) fabrication process, including the lead fuel assembly fabrication. 1

(2) Volume 2, L.3.3 **Ground Transportation Route Selection Process**. Shipments of radioactive materials to LANL should use the Santa Fe Relief Route (Route 599) to reduce the potential of a vehicular accident (and subsequent human health risk) while shipping components through the Santa Fe area. 2

(3) The main activities of pit disassembly, conversion, and immobilization, and MOX fuel fabrication were analyzed for sites outside the State of New Mexico. The only activity that might be located at Los Alamos National Laboratory is the fabrication of lead assemblies. An existing building would need to be modified to contain this activity, so welding would be done only inside buildings, limiting emissions. Operational emissions would result from vehicular traffic and emergency diesel generators. The Los Alamos National Laboratory is in an area that is currently in attainment for all National Ambient Air Quality Standards (NAAQS). Based upon the information provided, we would not anticipate any ambient air quality problems as a result of this project. 3

We appreciate the opportunity to comment on this DEIS. Please let us know if you have any questions.

Sincerely,


 Gedi Cibas, Ph.D.
 Environmental Impact Review Coordinator

NMED File No. 1191ER

MD325

MD325-1

NRC Licensing

Under the National Defense Authorization Act (fiscal year 1999), Congress directed that any facility under contract with and for the account of DOE that is used for the purpose of fabricating mixed plutonium-uranium oxide nuclear fuel for use in a commercial nuclear reactor obtain a license from NRC. In this act, Congress also exempted facilities that are used for research, development, demonstration, testing, or other analysis purposes from the licensing requirement.

Early in the preparation of the *Storage and Disposition PEIS* and this SPD EIS, DOE invited NRC to be a cooperating agency for the surplus weapons-usable fissile materials program. NRC declined the offer in favor of being a commenting agency. DOE is conducting regular meetings with NRC on the MOX approach, including fuel design and qualification.

As directed by Congress, NRC will be the regulatory authority for the MOX facility and will continue to be responsible for licensing the reactors, and as such would have to approve the use of MOX fuel through the license amendment process. The lead assemblies would be fabricated at DOE facilities that are not licensed by NRC, but the lead assemblies would meet licensing requirements for irradiation in selected reactors.

MD325-2

Transportation

DOE acknowledges the commentor's concerns about the transportation route selection process. The shipment of nuclear material (e.g., depleted uranium) using commercial carriers would be the subject of detailed transportation plans in which routes and specific processing locations would be discussed. These plans are coordinated with State, tribal, and local officials. The shipment of waste would be in accordance with the decisions reached on the *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste* (DOE/EIS-0200-F, May 1997) and the *WIPP Disposal Phase Final Supplemental EIS* (DOE/EIS-0026-S-2, November 1997). The transportation of special nuclear materials is the subject of detailed planning with DOE's Transportation Safeguards Division. The dates and times that specific transportation routes would be used for special nuclear materials are classified

information; however, the number of shipments that would be required, by location, has been included in this SPD EIS. Additional details are provided in *Fissile Materials Disposition Program SST/SGT Transportation Estimation* (SAND98-8244, June 1998), which is available on the MD Web site at <http://www.doe-md.com>.

MD325-3

Air Quality and Noise

DOE acknowledges the commentor's input. Air quality impacts from construction and normal operation of facilities at LANL for lead assembly fabrication would likely be minor as discussed in Section 4.27.4.1.

NEW MEXICO URANIUM WORKERS
PAUL HICKS
PAGE 1 OF 1

Honorable Donna Shalala
Sec. of Health & Human Services
200 Independence Ave. SW
Wash. D.C. 20201

Dear madam secretary:
We the uranium workers of the 40 common
states have a serious problem. We are
fighting tooth & nail for our very lives,
and there are few of us left alive now.
See my testimony before the Judiciary
Committee in June.

The President's advisory committee on human
radiation experiments in 1995 said that
R.E.C.A. (Radiation Exposure Compensation Act)
of 1990 was an unfair, unjust & inadequate
bill, & should be amended.

We now have Mr. Redmond's bill (which
is really our bill) in the house & Mr. Bing-
aman has a similar bill in the senate
but they are going nowhere.

Could you please help us in some
way, or tell us what we can do
to get things moving.

505-287-3165

Paul Hicks

President New Mexico Uranium Workers
FAX: 505-287-4877 604 B Alam, State, NM 82020

MD331

MD331-1

Other

DOE acknowledges the commentor's concerns. However, the impact of radiation on uranium miners is beyond the scope of this SPD EIS. If MOX fuel is used in domestic, commercial reactors as proposed in this EIS there would be less uranium needed to fuel these reactors and therefore less uranium mined. This comment was forwarded to the Department of Health and Human Services to whom it was originally addressed.

BRADFORD, KRISTA
PAGE 1 OF 2

IF NOT NOW...

140 ARBORWAY, STE. G, BOSTON, MA 02130-3522 USA
(617) 524-1342 • fax (617) 524-1347 • contact@ifnotnow.com

To: DOE, Fax 18008205156
From: If Not Now: A Citizens Lobbying Tool, EMail rep-info@ifnotnow
Date: Sep 16, 1998 7:04 GMT
Subject: Plutonium Disposal By Burning In Nuclear Reactors

If Not Now is a web-based citizen's lobbying tool. We are forwarding to you a letter from some of your constituents. At the end of this message there is a description of how our service works and how you can respond to your constituents.

Signatures as of Sep 16, 1998:
There were 2 new signers. Total signers to date: 4.

TOPIC: Plutonium Disposal By Burning In Nuclear Reactors

Dear DOE (Fissile Materials Program),

I am writing to oppose the current Department of Energy plan for plutonium disposition, which is based on mixed-oxide (MOX) fuel. MOX fuel is a bad idea. It is unproven technology as far as commercial reactors in the U.S. are concerned. MOX techniques for plutonium disposal are also slower and more expensive than immobilization techniques. In addition, the treatment of plutonium as an energy source sets a dangerous precedent for nuclear proliferation and the development of plutonium fuel economies. It is essential that the DOE do everything possible to discourage this proliferation.

New signers and comments:

Krista Bradford, New York, NY 10033
Danielle Benzinger, Arlington, TX 76006

DESCRIPTION OF IF NOT NOW SERVICE

Subscribers use If Not Now (www.ifnotnow.com) to get information about political and social issues of concern to them. The service also enables them to sign letters about these topics, which we then forward in consolidated form to officials such as yourself. It is important to emphasize that our subscriber list is authenticated through credit card verification, and only those signers who belong to your specific constituency are included in the signature list that you receive.

FD312

FD312-1

MOX Approach

DOE acknowledges the commentor's opposition to the MOX approach to surplus plutonium disposition. While it is true MOX fuel has not been produced commercially in the U.S., it has been produced in Western Europe. MOX fuel fabrication is not a new technology. This experience would be used for disposition of the U.S. surplus plutonium. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

Any difference between the cost of the hybrid approach and that of the immobilization-only approach would be marginal. Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

3-357

Comment Documents and Responses—New York



140 ARBORWAY, STE. 6, BOSTON, MA 02130-3522 USA
(617) 524-1342 • fax (617) 524-1347 • contact@ifnotnow.com

An important feature of If Not Now is that we follow up on every action letter that we send, and we report how representatives, officials and others have acted on the issue. We also provide you with the opportunity to respond to your constituents (via a password-protected web server, to ensure that only legitimate responses are posted). Follow the directions below. Your letter will be posted without editing; your constituents will be able to view your response when they check the results of that action. (We regret that we cannot process responses received via fax or US mail.) We strongly encourage you to send us a response! Our subscribers are active, involved citizens who want to hear from you.

To respond to an action letter: fill out the form at <http://www.ifnotnow.com/respond.html> -- you will need to use your special key: PeeTJlwV. This key is valid for one-time use only. Please send questions or comments via email to: rep-info@ifnotnow.com.

FD312

BLUE RIDGE ENVIRONMENTAL DEFENSE LEAGUE

PO Box 88 -- Glendale Springs, North Carolina 28629 Phone 336-982-2691 -- Fax 336-982-2954 -- Email bred@skystest.com

August 10, 1998

via facsimile # 800-820-5156

Office of Fissile Materials Management
U.S. Department of Energy
PO Box 23786
Washington, D.C. 20026-3786

Dear Sir or Madam:

We, the undersigned, write to request both a sixty-day extension of the public comment period and additional public hearings in North Carolina on the Draft Surplus Plutonium Disposition Environmental Impact Statement. We write also to support requests by other citizens' groups and individuals for additional public hearings in affected communities. The SPDEIS is the latest National Environmental Policy Act document that will help shape decisions on how to dispose of up to fifty metric tons of weapons usable plutonium that has been declared surplus to national security needs. Full public debate must occur now.

Extend the Public Comment Period for Sixty Days

The Department of Energy is allowing for a sixty day comment period for people to review and provide comments on a large, complex document that references twenty-eight other related NEPA documents, an economic report that not released until July 28, 1998, and numerous Data Reports. The Data Reports are unavailable to people who are not near a Department of Energy Reading Room, yet contain crucial information. For example, on page J-4 of the Draft SPDEIS, DOE wrote that, "source term data for radiological releases, stack heights, and release locations are provided in the Data Reports for the pit conversion, immobilization, and MOX facilities." In other words, the Draft SPDEIS does not contain any data on something as basic as expected quantities of radioactive air pollutants.

Provide for Additional Public Hearings

The Department of Energy is planning only five public hearings, four in the communities closest to DOE sites being considered for new plutonium processing plants, and one regional meeting in a downstream community (Portland). This public hearings schedule will likely dilute the diversity of public comments; inhibit the involvement of downwind and downstream communities that generally bear liabilities without benefits; and skew the public opinion curve in favor of DOE proposals.

DOE should add the following hearings to its list:

1. Regional Hearings in Savannah, Georgia and Columbia, South Carolina. The Savannah River Site is the preferred candidate site for all three new plutonium processing facilities. Real impacts on the Savannah River from SRS operations and accidents are well documented, with the most notable being the December, 1991 tritium leak that quickly reached Savannah, Georgia. DOE

*If a creditor stands before a man's house all day long, demanding payment of his bill,
the man must either remove the creditor or pay the bill. ~ Alice Paul*

SCD30

SCD30-1

General SPD EIS and NEPA Process

DOE believes that the comment period, longer than required by CEQ's NEPA regulations, allowed sufficient time for public review of the SPD Draft EIS. Although it did not extend the comment period, DOE did consider all comments received after the close of that period. All comments were given equal consideration and responded to.

Appendix J was revised to include expected radiological release quantities from each of the proposed surplus plutonium disposition facilities. DOE's descriptions of the affected environment and the potential environmental impacts in this SPD EIS are in accordance with 40 CFR 1502.15 and 40 CFR 1502.16. These descriptions are no longer than necessary for an understanding of the effects of the alternatives, and the analyses and data are commensurate with the significance of the impact, the less-important information being consolidated, summarized, or referenced. Resources such as the data reports are available in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

SCD30-2

General SPD EIS and NEPA Process

It was not possible to hold hearings in all areas of the country; therefore, the hearings were restricted to locations where the greatest impacts of the proposed surplus plutonium disposition facilities could be expected. DOE did, however, provide various other means for public comment on this SPD EIS: mail, a toll-free telephone and fax line, and the MD Web site. During preparation of the *Storage and Disposition PEIS*, regional hearings were held in locations such as Boston, Chicago, San Francisco, and Denver. Denver was included because the PEIS dealt with the removal of materials from RFETS. DOE made, and is honoring, a commitment to get all plutonium out of RFETS. Additional hearings in Denver were not held because the proposed surplus plutonium disposition facilities would not be sited in the area. Shipment of MOX fuel to Canada for testing is under consideration as part of a separate EA, and is beyond the scope of this EIS. The *Environmental Assessment for the Parallelex Project Fuel*

BREDL
10 August 1998
page 2

cannot justify a lack of public hearings in Savannah or Columbia, which will bear the greatest liability from its proposals.

2

2. Regional hearings in communities near nuclear reactor sites that are being proposed for irradiation of Mixed Oxide (MOX) fuel. Consortiums of utilities and nuclear fuel fabricators are scheduled to submit Proposals for MOX Fuel Fabrication and Irradiation Services August 1998. We request that a public hearing be held in Raleigh and Charlotte, North Carolina, where reactor communities and the affected public are located.

DOE has stated that "environmental impact analysis relating to specific reactors will be included in the SPD Final EIS," although these analyses are scheduled to be made by Consortiums in their Proposals. During the 1997 Scoping for the SPDEIS, DOE was repeatedly asked to involve nuclear reactor communities in the NEPA process, yet ignored these comments while moving forward on a process to select reactor sites that excludes community input. DOE cannot justify soliciting public comment for the site selection process for plutonium processing facilities, while excluding public involvement in selecting plutonium irradiation facilities.

3

3. A regional hearing in Denver, Colorado. Denver is in proximity to Rocky Flats where approximately 25% of the surplus plutonium is in storage, so the area has a stake in the decisions being made. Furthermore, DOE has never held hearings to discuss plutonium immobilization of Rocky Flats plutonium as a reasonable alternative, and is proposing to weaken the requirements for shipping plutonium from Rocky Flats to Savannah River Site.

4. A regional hearing in Dallas, Texas. Dallas is likely to be in the transportation corridor for shipments of special nuclear materials and radioactive waste from new operations. The Department of Energy cannot legitimately claim that state-wide support exists in Texas for Pantex becoming a new DOE plutonium processing site without seeking input from outside the Amarillo area.

2

5. A hearing in Washington D.C., where decisions are made, policy is formulated, and a substantial community of non-governmental organizations exists to monitor the Department of Energy, and where a larger community of organizations exists to monitor how taxpayer dollars are spent.

6. Port Huron, Michigan (or other location), the location of the border crossing for plutonium fuel shipments to Chalk River, Ontario to test in CANDU reactors. DOE is still considering the option of burning MOX fuel in CANDU reactors, yet has effectively excluded Canadian citizens from the process. The hearing could be a cooperative public event held with the Atomic Energy of Canada, Ltd.

The abundant uncertainties and recent changes in direction in the Department of Energy's hazardous plutonium disposition program indicates a continued need to subject Federal proposals to the highest and most rigorous levels of public debate possible. DOE has already failed to

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Manufacture and Shipment (DOE/EA-1216, January 1999) and FONSI (August 1999) can be viewed on the MD Web site at <http://www.doe-md.com>.

DOE actively sought public comments on the SPD Draft EIS and distributed approximately 1,700 copies of the document to all interested parties. All comments, regardless of how they were submitted, were given equal consideration and responded to.

SCD30-3 General SPD EIS and NEPA Process

Regional public hearings on the nuclear reactor sites proposed for the irradiation of MOX fuel could not be conducted during the public comment period for the SPD Draft EIS, as no sites had been designated by that time. The SPD Final EIS was not issued until specific reactors had been identified and the public had an opportunity to comment on the reactor-specific information. As part of the procurement process, bidders were asked to provide environmental information to support their proposals. This information was analyzed in an Environmental Critique prepared for the DOE source selection board prior to award of the MOX fuel fabrication and irradiation services contract. DOE then prepared an Environmental Synopsis on the basis of the Environmental Critique, which was released to the public as Appendix P of the *Supplement to the SPD Draft EIS* in April 1999.

SCD30-4 General SPD EIS and NEPA Process

Since the inception of the fissile materials disposition program, DOE has supported a vigorous public participation policy. It has conducted public hearings in excess of the minimum required by NEPA regulations to engender a high level of public dialogue on the program. The office has also provided the public with substantial information in the form of fact sheets, reports, exhibits, visual aids, and videos related to fissile materials disposition issues. It hosts frequent workshops, and senior staff members make presentations to local and national civic and social organizations on request. Additionally, various means of communication—mail, a toll-free telephone and fax line, and a Web site (<http://www.doe-md.com>)—have been provided to facilitate the public

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implement the easiest part of its plutonium storage and disposition program. At Pantex it has abandoned its new "safer" container and a proposed facility upgrade for plutonium pit storage. For Rocky Flats plutonium, it is already amending the "Record of Decision" for the "Storage and Disposition of Weapons-Usable Fissile Materials Final Programmatic Environmental Impact Statement" to "address the environmental impact of utilizing the K-Reactor facility for plutonium storage, the possibility that plutonium stabilization would be done at SRS instead of at RFETS, the shipment of plutonium to SRS before the APSF storage vault is operational, the shipment of some materials from RFETS that are less than 50% plutonium, and the need to utilize direct metal casting in FB-Line to de-classify some of the RFETS." (Defense Nuclear Facilities Safety Board Weekly Report for Savannah River Site, June 26, 1998).

The National Environmental Policy Act requires Federal Agencies to insure that high quality "environmental information is available to public officials and citizens before decisions are made and before actions are taken", and that substantial and meaningful public involvement in the planning and decision process. By restricting public hearings to a few communities, DOE would be violating the spirit of NEPA.

Signed,

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dialogue. It is DOE policy to encourage public input into these matters of national and international importance.

SCD30-5 Storage and Disposition PEIS and ROD

DOE acknowledges the commentors' concern regarding the safe storage of plutonium pits at Pantex. DOE is committed to the safe, secure storage of pits and is evaluating options for upgrades to Pantex Zone 4 facilities to address plutonium storage requirements. DOE has addressed some of the commentor's concerns in an environmental review concerning the repackaging of Pantex pits into a more robust container. This evaluation is documented in the *Supplement Analysis for: Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components—AL-R8 Sealed Insert Container* (August 1998). This document is on the MD Web site at <http://www.doe-md.com>. Based on this supplement analysis, the decision was made to repackage pits at Pantex into the AL-R8 sealed insert container and to discontinue plans to repackage pits into the AT-400A container.

SCD30-6 Storage and Disposition PEIS and ROD

DOE conducted a supplement analysis for the early movement to and storage of the RFETS surplus plutonium in Building 105-K after modifications to enable safe, secure plutonium storage. Based on this analysis, DOE issued the amended ROD, referenced by the commentor, in the Federal Register (63 FR 43392) on August 13, 1998, in fulfillment of the letter and spirit of NEPA (40 CFR 1506.6(b)). The decision is contingent on a decision under this SPD EIS to locate an immobilization facility at SRS. A copy of the amended ROD and the supplement analysis is available in the DOE reading rooms and on the MD Web site at <http://www.doe-md.com>.

BLUE RIDGE ENVIRONMENTAL DEFENSE LEAGUE

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**Comments of Lou Zeller to the Office of Fissile Materials Disposition
regarding the Surplus Plutonium Disposition Draft EIS
August 13, 1998, North Augusta, South Carolina.**

My name is Louis Zeller and I am on the staff of the Blue Ridge Environmental Defense League. Our organization was founded in 1984 in response to the Department of Energy's Crystalline Repository Project which planned to bury high level nuclear waste in a deep hole in the ground. Together with thousands of activists, we organized to halt that ill-conceived project.

Today I address the draft EIS for surplus plutonium disposition which would take fissile materials from Hanford, Washington and Rocky Flats, Colorado and move it to the Savannah River Site in preparation for reprocessing. I have studied available documents including the DOE's 6450-01-P on amending the Record Of Decision on the Storage and Disposition of Weapons-Usable Fissile Materials. Although the Amended Record of Decision would increase the transport and storage of plutonium from 10 MT to 11.6 MT, it would also open the door to reprocessing of plutonium into commercial nuclear reactor fuel.

We oppose the planned "burning" of surplus weapons-usable plutonium as mixed oxide fuel in existing commercial light water reactors outlined in the SPDEIS. It is simply not possible to burn plutonium. The continued use of Orwell-like terms to describe DOE actions does nothing to increase public confidence in the DOE's programs. Another example: To "declassify" in DOE newspeak means to reprocess plutonium metal for storage at SRS.

Furthermore, the use of plutonium oxide fuel, or POX, in commercial power reactors will not significantly reduce the amount of plutonium. Nuclear reactors produce plutonium where none existed before. A typical commercial reactor produces 500 pounds of plutonium a year. Government contractors have estimated that using POX in commercial reactors would reduce the total plutonium by only 1%. To this must be added the dangers of reactor component embrittlement caused by the POX fuel's higher neutron flux. This will shorten the expected lifespan of utility reactors and increase the risk and the severity of accidents. Utility ratepayers and the taxpayers will pay for all this, and our children and grandchildren will bear the negative health effects and genetic abnormalities.

Even without an accident, people who live, work, and go to school near the transport routes will be dosed with radiation. The transport casks have never been subjected to real-world tests. In the name of reducing the nuclear threat, the U.S. government will give terrorists thousands of miles of opportunities to seize or sabotage radioactive materials.

In 1994 and 1995, the Foreign Research Reactor Spent Nuclear Fuel program provided the Blue Ridge Environmental Defense League and our allies with an opportunity to expose the myth of nuclear non-proliferation. The firestorm of publicity ignited by the Don't Nuke North/South Carolina Campaign made it impossible for elected officials charged with protection of public health to avoid the issue. Our methods were straightforward, our goal simple: get the word

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SCD29-1

Storage and Disposition PEIS and ROD

DOE acknowledges the commentor's concern about the movement of fissile materials from Hanford and RFETS to SRS. In order to support the early closure of RFETS and the early deactivation of plutonium storage facilities at Hanford, DOE has modified, contingent upon certain conditions, some of the decisions made in its *Storage and Disposition PEIS* ROD. Hanford and RFETS surplus plutonium would not be of a quality suitable for use as MOX fuel in a domestic, commercial reactor.

U.S. policy dating back to the Ford Administration has prohibited the commercial, chemical reprocessing and separation of plutonium from spent nuclear fuel. The use of U.S. surplus plutonium in existing commercial reactors does not involve reprocessing (reprocessing is a chemical separation of uranium, transuranic elements [including plutonium], and fission products from spent reactor fuel and the reuse of the plutonium and uranium to produce new fresh fuel). The proposed use of MOX fuel is consistent with the U.S. nonproliferation policy and would ensure that plutonium which was produced for nuclear weapons and subsequently declared excess to national security needs is never again used for nuclear weapons.

SCD29-2

MOX Approach

DOE acknowledges the commentor's opposition to the use of MOX fuel in commercial reactors. Commentor is correct that using MOX fuel does not destroy all the plutonium. However, the MOX approach does meet the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors.

SCD29-3

General SPD EIS and NEPA Process

The declassification at SRS of plutonium residues from RFETS is the subject of the *Supplement Analysis for Storing Plutonium in the Actinide Packaging and Storage Facility and Building 105-K at the Savannah River Site* (July 1998) and amended ROD for the *Storage and Disposition*

PEIS. It is important that this limited amount of material be changed from its current form into a form that does not allow for proliferation of the knowledge or means of nuclear weapons fabrication to terrorists or rogue states. The plutonium resulting from the declassification action could be either immobilized or used to fabricate MOX fuel.

SCD29-4

MOX Approach

DOE acknowledges the commentator's opposition to the MOX approach. Although no U.S. commercial reactors are licensed to use plutonium-based fuel, several are designed to use MOX fuel, and others can easily and safely accommodate a partial MOX core. While it is true that not all the plutonium would be consumed during irradiation in a nuclear reactor, the resulting spent fuel would have a radiation barrier equivalent to LEU spent fuel, and recovery of this plutonium would be extremely dangerous, time consuming, and costly.

The higher flux associated with MOX fuel can accelerate reactor component aging. However, this would be taken into account when developing fuel management strategy, including fuel assembly placement in the reactor core. The proposed action anticipates partial, not full, MOX cores in the selected reactors. The commercial reactors selected for the MOX approach include only those reactors whose operational life is expected to last beyond the life of the surplus plutonium disposition program.

Section 4.28 was revised to provide reactor-specific analyses and discuss the potential environmental impacts of using a partial MOX core during routine operations and reactor accidents.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution*

Document (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

SCD29-5

Transportation

DOE acknowledges the commentor's concern regarding the safety of nuclear materials transportation. DOE is committed to safety and safeguards for its facilities and the transport of materials.

Transportation would be required for both the immobilization and MOX approaches to surplus plutonium disposition. Transportation of special nuclear materials, including fresh MOX fuel, would use DOE's SST/SGT system. Since the establishment of the DOE Transportation Safeguards Division in 1975, the SST/SGT system has transported DOE-owned cargo over more than 151 million km (94 million mi) with no accidents causing a fatality or release of radioactive material. The transportation requirements for the surplus plutonium disposition program are also evaluated in this SPD EIS. As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures or vehicle emissions are expected.

Table L-6 summarizes the possibility of a LCF associated with the radiation doses from shipping radioactive material. Type B packages have been used for years to ship radioactive materials in the United States and around the world. To date, no Type B package has ever been punctured or released any of its contents, even in actual highway accidents. No Type B package has seen real-world conditions that approach the severity level of the tests. As described in Appendix L.3.1.6, the Type B package is extremely robust and provides a high degree of confidence that even in extremely severe accidents, the integrity of the package would be maintained with essentially no loss of the radioactive contents or serious impairment of the shielding capability.

out. Our traveling roadshow traced the nuclear transport route from Sunny Point to Wilmington to Pembroke and into South Carolina. The Governor of North Carolina responded with scores of Highway Patrolmen, the State Bureau of Investigation, and a helicopter to accompany the nuclear waste trains. The elaborate preparations for accidents underscores the real danger represented by international commerce of nuclear waste.

Exposing these strategically valuable materials to shipment on the nations highways and byways presents thousands of miles of opportunities for would-be saboteurs, thieves, and terrorists. We demonstrated by our all-night vigil at Sunny Point that anyone so inclined can easily track these shipments. "This just goes to show that any terrorist who can afford a pair of binoculars and a plane ticket could know their every move," said Janet M. Zeller, BREDL's Executive Director. A spokesman for the DOE labeled our actions a "needless breach of security."⁴ But the publicity generated by our campaigns does not make sabotage more likely. On the contrary, the increased surveillance and precautions taken by state officials was a direct result of the high media profile.

The Environmental Assessment for the foreign wastes prepared by DOE in 1994 states that the Savannah River Site's receiving basin for the foreign wastes "show no visible signs of corrosion." But in July 1995 a report by the Defense Nuclear Facilities Safety Board inspection team noted that, "significant corrosion of the spent fuel was contaminating the facility, generating significant waste, and contributing to personnel exposure."

The exposure of people living close to the rail lines and highways to ionizing radiation is easily overlooked. Cancers, leukemias, and immune suppression may be delayed for years or decades. Dr. Carl Rupert, BREDL Board of Directors member, estimates the population dose from the expected total of 837 trans-ocean shipments to be 7,885 person-rem, which could result in twenty cancer fatalities from ocean transport of FRR waste alone.

During our Don't Nuke North/South Carolina Campaign we met mostly Native American residents living a stone's throw from the tracks watching the activity at the rail junction. Small homes and housing projects are close to the tracks here. Many people are unable to afford automobiles and telephones. Evacuation would be difficult or impossible. The people of Pembroke believed that the nuclear waste train endangered their community. They did not believe DOE spokesmen who claim, on the one hand, that these materials are too dangerous to be left in storage but that, on the other hand, there is no cause for concern for residents of North and South Carolina.

Our rights in a free society are threatened by the laws deemed necessary to protect these shipments. This nation cannot protect the nuclear fuel cycle from terrorism without becoming a police state. A private citizen standing on public property may view a train or truck and spread the word without jeopardy. However, if that cargo carries nuclear weapons-grade materials the citizen becomes an outlaw. The Blue Ridge Environmental Defense League plans to continue our campaign for as long as it takes to bring an end to this deadly commerce.

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Transportation

DOE's SST/SGT system uses couriers that are armed Federal officers, an armored tractor to protect the crew from attack, and specially designed escort vehicles containing advanced communications and additional couriers. The evaluation of human health risks from transportation are addressed in the Transportation sections in Chapter 4 of Volume I and in greater detail in Appendix L. Human health impacts of the proposed facilities are discussed in the Human Health Risk sections of Chapter 4 and in greater detail in Appendix J. Nonproliferation is only one factor in the decisionmaking process for surplus plutonium disposition. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

DUKE COGEMA STONE & WEBSTER
ROBERT H. IHDE
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DUKE COGEMA
STONE & WEBSTER

September 10, 1998

Mr. Bert Stevenson
NEPA Compliance Officer
Office of Fissile Materials Disposition
U.S. Department of Energy
P.O. Box 23786
Washington, DC 20026-3786

Subject: **Surplus Plutonium Environmental Impact Statement**

Dear Mr. Stevenson:

Thank you for the opportunity to comment on the draft Surplus Plutonium Disposition Environmental Impact Statement, as published in July 1998.

The attached comments are submitted on the behalf of DUKE COGEMA STONE & WEBSTER. DUKE COGEMA STONE & WEBSTER is leading a consortium of companies which has responded to a Department of Energy request for bids to design, construct and operate a mixed oxide plant. Other members of the team are Framatome COGEMA Fuels, Nuclear Fuel Services, Duke Power and Virginia Power.

Our specific comments on the draft Surplus Plutonium Disposition Environmental Impact Statement are provided in the attachment to this letter. If you have any questions pertaining to these comments, please contact Ms. Mary Birch at (704) 382-2140.

Sincerely,

Robert H. Ihde
President and CEO
DUKE COGEMA STONE & WEBSTER

Enc/ Comments on Draft EIS

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ATTACHMENT

DUKE COGEMA STONE & WEBSTER Comments on the Department of Energy's (DOE's) Draft Surplus Plutonium Disposition (SPD) Environmental Impact Statement (EIS)

No. Location Comment

1 Executive Summary, p. S-8 **Specification of "can-in-canister" immobilization as a preferred alternative.**

DOE is proposing "can-in-canister" immobilization as its preferred alternative for immobilization. However, the DOE's own reports^{1,2} indicate that "can-in-canister" immobilization does not currently meet the Spent Fuel Standard for long-term nonproliferation resistance. The United States must deploy an effective, accepted plutonium disposition technology or technologies if it wants to encourage international support for plutonium disposition. DUKE COGEMA STONE & WEBSTER expects that concurrent action on the part of Russia to dispose of its surplus plutonium will be predicated on the disposition of United States material in a manner that provides high confidence in its resistance to theft, diversion, or re-use.

Recommendations:

1. DOE should consider only those alternatives that meet the Spent Fuel Standard [i.e., mixed oxide (MOX) fuel and homogeneous immobilization] as preferred alternatives.
2. If the DOE pursues deployment of "can-in-canister" immobilization, the DOE should explain how it will demonstrate, in an open, objective, and peer-reviewed process, that the "can-in-canister" plutonium disposition approach will meet this fundamental program requirement - the Spent Fuel Standard.

¹ Sandia National Laboratories, SAND97-8203- Proliferation Vulnerability Red Team Report, October 1996

² U.S. Department of Energy, DOE/NN-0007- Nonproliferation and Arms Control Assessment of Weapons-Usable Fissile Material Storage and Excess Plutonium Disposition Alternatives, January 1997

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DOE Policy

DOE acknowledges the commentor's concern regarding the ability of the immobilization approach to meet the Spent Fuel Standard. In the *Nonproliferation and Arms Control Assessment of Weapons-Usable Fissile Material Storage and Excess Plutonium Disposition Alternatives* (DOE/NN-0007, January 1997), DOE identified two potential liabilities of the immobilization alternatives relative to the Spent Fuel Standard. These liabilities involve ensuring sufficient radiation levels and providing removal-resistant can-in-canister designs. Since that time, DOE has modified the can support structure inside the canisters and has focused its research on the ceramic form of immobilization. As part of the form evaluation process, an independent panel of experts determined (*Letter Report of the Immobilization Technology Peer Review Panel*, from Matthew Bunn to Stephen Cochran, LLNL, August 21, 1997) that the can-in-canister design would meet the Spent Fuel Standard. In addition, NAS is currently conducting studies to confirm the ability of the ceramic can-in-canister immobilization approach to meet the Spent Fuel Standard. DOE is confident that immobilization remains a viable alternative for meeting the nonproliferation goals of the surplus plutonium disposition program.

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No.	Location	Comment
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2	Executive Summary, p. S-14	Quantities of plutonium considered in the EIS for disposal using the two approaches.
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The draft EIS states, "Since the ROD was issued, however, DOE has determined that an additional 9 tonnes of low plutonium content materials would require additional processing and would, therefore, be unsuitable for MOX fuel fabrication". DOE alternatives include disposing of a maximum of 33 tonnes of plutonium as MOX fuel, while the alternatives include immobilizing 50 tonnes of surplus plutonium.

DOE has never provided justification that any surplus plutonium is not suitable for MOX use. The DOE has not explained what form this "unsuitable" plutonium is in. The technology descriptions in the draft EIS make it clear that various kinds of processing will be used in the Conversion and Immobilization Facility. Also, a wet processing step has been allowed in the DOE's MOX RFP. It would appear to be possible that some of this processing would render material that is suitable for fabrication into MOX fuel. Finally, the DOE has specified no requirements that the plutonium destined for either MOX fuel or immobilization must satisfy. Therefore, it seems very unlikely that there is any technical basis for any decision about quantities of plutonium that are suitable for either option.

Recommendation:

Given the lack of justification for any decision about quantities of material for the two options, DOE should include the evaluation of a 100% (50 tonnes) MOX fuel alternative in the SPD EIS. This is the only way to preserve all appropriate options until the time that the DOE can make a technically defensible evaluation and decision on the allocation of material to the two plutonium disposition approaches.

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MD177-2**Feedstock**

DOE reviewed the chemical and isotopic composition of the surplus plutonium and determined in the *Storage and Disposition PEIS* ROD that about 8 t (9 tons) of surplus plutonium were not suitable for use in making MOX fuel. Furthermore, DOE has identified an additional 9 t (10 tons) for a total of 17 t (19 tons) that have such a variety of chemical and isotopic compositions that it is more reasonable to immobilize these materials and avert the processing complexity that would be added if these materials were made into MOX fuel. The criteria used in this identification included the level of impurities, processing requirements, and the ability to meet the MOX fuel specifications. Section 2.2 includes a description of the forms of plutonium that would be used for MOX feed and immobilization feed and the levels of impurities present in those materials. As discussed in this section, the plutonium destined for immobilization is mainly in the form of impure oxides, impure metals, plutonium alloys, uranium/plutonium oxide, and some alloyed reactor fuel. Impurities present include neptunium, thorium, and beryllium. None of the material planned for immobilization is in the form of spent fuel, and all of it is considered weapons usable. A further description of the types and amounts of plutonium currently planned for disposition can be found in *Feed Materials Planning Basis for Surplus Weapons-Usable Plutonium Disposition* (MD-0013, April 1997), which is available on the MD Web site at <http://www.doe-md.com>.

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No.	Location	Comment	
3	Executive Summary, p. S-8, Appendix D.	<p>Fast Flux Test Facility (FFTF).</p> <p>It is not clear that using the FFTF to destroy nuclear weapons material (plutonium) would be acceptable to the international community if, at the same time, the facility was producing another kind of nuclear weapons material (tritium).</p> <p><i>Recommendation:</i> In discussing the use of the FFTF for a combined plutonium disposition and tritium production mission, DOE should acknowledge that there is a significant nonproliferation issue associated with such a course of action.</p>	3
4	Appendix D, p.D-2.	<p>Fast Flux Test Facility (FFTF).</p> <p>The appendix states "If it were determined that MOX fuel (rather than uranium-only fuel) were needed for the FFTF operations, the MOX fuel fabrication alternatives may be eliminated, depending on the amount of surplus plutonium that would be required for tritium production." however, it is our understanding that the capability to fabricate significant quantities of MOX fuel for the FFTF does not currently exist within DOE complex.</p> <p><i>Recommendation:</i> DOE should acknowledge that the use of the FFTF with plutonium fuel in this manner would require the design and construction of a MOX fuel fabrication facility for the FFTF. It is the light water reactor irradiation of MOX fuel that might be eliminated by such a course of action.</p>	4

MD177-3

DOE Policy

As discussed in Appendix D of the SPD Draft EIS, DOE did consider FFTF in the *Storage and Disposition PEIS*, but it was eliminated from further study because it was in a standby status and it could not satisfy the criterion of completing the disposition mission within 25 years using the historic FFTF plutonium enrichment specifications. In December 1998, the Secretary of Energy decided that FFTF would not play a role in producing tritium.

MD177-4

DOE Policy

As discussed in Section 1.7.4, Appendix D was deleted because none of the proposals to restart FFTF currently consider the use of surplus plutonium as a fuel source.

No.	Location	Comment	
5	Sections 2.17 and 2.18.	Hot cell examinations of irradiated lead assembly fuel.	5
	Section 4.27.6	The environmental impacts in the draft EIS do not appear to include those impacts associated with hot cell examinations. In particular, there is no acknowledgement that the hot cell facilities would be responsible for the disposal of the spent nuclear fuel that results from destructive hot cell examinations. <i>Recommendation:</i> DOE should revise the EIS to include these impacts, or note that such impacts are already included in other environmental evaluations.	
6	Section 5.1, 5.2 and 5.4.	Preferred Alternatives. MOX Fuel Fabrication Alternatives. Lead Assembly Fabrication. Numerous times the number of lead assemblies referred to is 10. Based on scope and schedule for a lead assembly program it would be very unlikely that this number of full MOX lead assemblies could be fabricated. <i>Recommendation:</i> If this is a bounding number of lead assemblies used for EIS basis, then it should be stated as such. It is misleading to indicate that 10 lead assemblies could be successfully fabricated based on our knowledge (or is there some information that we are not aware that established this number).	6

MD177-5

Lead Assemblies

The two DOE sites, ANL-W and ORNL, proposed for postirradiation examination conduct these types of activities on an ongoing basis. Impacts for activities associated with the postirradiation examination of lead assemblies are within the scope of existing NEPA documentation at these sites and are discussed, for limited resource areas, in Section 4.27.6. Spent fuel after postirradiation examination would be the responsibility of the DOE spent nuclear fuel program. As stated in the ROD for the *DOE Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs Final EIS* (DOE/EIS-0203-F, April 1995), interim storage for this type of spent fuel would take place at INEEL before eventual disposal in a geologic repository. As described in the revised Section 1.6, the preferred alternative for postirradiation examination is ORNL.

MD177-6

Lead Assemblies

The SPD Draft EIS assumed up to 10 lead assemblies as a bounding analysis based on DOE's extensive discussions with representatives from the commercial fuel industry. This SPD EIS was revised to evaluate two lead assemblies based on information from DCS, the team that was selected to provide MOX fuel fabrication and irradiation services, although it is possible that more than two would be required.

No.	Location	Comment	
7	Section 5.1	<p>Preferred Alternatives.</p> <p>DOE does not, at this time, have a preference for the location where lead assemblies for MOX fuel qualification would be fabricated.</p> <p><i>Recommendation:</i> The decision should be left up to the contractor where lead assembly fabrication will take place based on their technical evaluation at the preferred locations cited by DOE.</p>	7
8	Section 5.2	<p>MOX Fuel Fabrication Alternatives.</p> <p>Environmental critique that will be prepared, will it be available to Contractor for review prior to the issuance and basis for environmental synopsis?</p> <p><i>Recommendation:</i> Contractor should be able to review for accuracy and completeness prior to issuance.</p>	8
9	General	<p>SPD EIS Contractor</p> <p>Appendix B The SPD EIS includes a Appendix B - Contractor Nondisclosure Statement. In this appendix there is a signed statement that the contractor has no financial interest in the outcome of the project. Given the nature of the statement, it would more appropriately be called a disclosure (vs. nondisclosure) statement. Also, the identity of the SPD EIS support contractor does not appear to be provided anywhere in the SPD EIS, including Appendix B.</p> <p><i>Recommendations:</i> 1. Rename Appendix B "Contractor Disclosure Statement." 2. Identify the support contractor in Appendix B and in the cover section of the SPD EIS.</p>	9

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MD177-7

Lead Assemblies

As discussed in the revised Section 1.6, based on consideration of capabilities of the candidate sites and input from DCS on the MOX approach, DOE prefers LANL for lead assembly fabrication. LANL is preferred because it already has fuel fabrication facilities that would not require major modifications, and takes advantage of existing infrastructure and staff expertise. Additionally, the surplus plutonium dioxide that would be used to fabricate the lead assemblies would already be in inventory at the site. Section 2.17.2 describes the lead assembly fabrication siting alternatives, and Section 4.27 discusses the potential impacts of lead assembly activities. Decisions on lead assembly fabrication will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

MD177-8

MOX RFP

The Environmental Synopsis is a nonproprietary, publicly available summary of the Environmental Critique, which is an internal DOE procurement document subject to confidentiality requirements. Procurement analyses are not subject to review and approval by offerors.

MD177-9

General SPD EIS and NEPA Process

Per the commentor's recommendation, the title of Appendix B is now "Contractor Disclosure Statement," and the name of the contractor, Science Applications International Corporation, appears on the revised form.

DUKE POWER COMPANY
K. S. CANADY
PAGE 1 OF 6



Duke Power Company
A Duke Energy Company
Energy Center
P.O. Box 1006
Charlotte, NC 28201-1006

September 8, 1998

U. S. Department of Energy
Office of Fissile Materials Disposition
P.O. Box 23786
Washington, DC 20026-3786

Subject: Surplus Plutonium Disposition Environmental Impact Statement

Dear Sir or Madam:

Thank you for the opportunity to comment on the draft Surplus Plutonium Disposition Environmental Impact Statement, as published in July 1998.

The attached comments are submitted on the behalf of Duke Power, a division of Duke Energy Corporation. Duke Power has proposed to provide four mission reactors for the disposition of surplus weapons plutonium as part of the DUKE COGEMA STONE & WEBSTER Team. The team members are Duke Engineering & Services; COGEMA; Stone & Webster; Framatome Cogema Fuels; Nuclear Fuel Services; and Virginia Power.

Duke Power's specific comments on the draft Surplus Plutonium Disposition Environmental Impact Statement are provided in the attachment to this letter. If you have any questions pertaining to these comments, please contact Mr. Steven Nesbit at (704) 382-2197.

Sincerely,

K. S. Canady, Manager
Nuclear Engineering- NGD
Duke Power Company

Attachment

SPN

MD165

ATTACHMENT

Duke Power Comments on the Department of Energy's (DOE's) Draft
 Surplus Plutonium Disposition (SPD) Environmental Impact Statement (EIS)

No. Location Comment

1	Executive Summary, p. S-8	<p>Specification of "can-in-canister" immobilization as a preferred alternative.</p> <p>DOE is proposing "can-in-canister" immobilization as its preferred alternative for immobilization. However, the DOE's own reports¹ indicate that "can-in-canister" immobilization does not currently meet the Spent Fuel Standard for long-term nonproliferation resistance. The United States must deploy an effective, accepted plutonium disposition technology or technologies if it wants to encourage international support for plutonium disposition. Duke expects that concurrent action on the part of Russia to dispose of its surplus plutonium will be predicated on the disposition of United States material in a manner that provides high confidence in its resistance to theft, diversion, or re-use.</p> <p><i>Recommendations:</i></p> <ol style="list-style-type: none"> 1. DOE should consider only those alternatives that meet the Spent Fuel Standard [i.e., mixed oxide (MOX) fuel and homogeneous immobilization] as preferred alternatives. 2. If DOE pursues deployment of "can-in-canister" immobilization, DOE should explain how it will demonstrate, in an open, objective, and peer-reviewed process, that the "can-in-canister" plutonium disposition approach will meet this fundamental program requirement - the Spent Fuel Standard.
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¹ Sandia National Laboratories, SAND97-8203 - Proliferation Vulnerability Red Team Report, October 1996.
² U. S. Department of Energy, DOE/NN-0007 - Nonproliferation and Arms Control Assessment of Weapons-Usable Fissile Material Storage and Excess Plutonium Disposition Alternatives, January 1997.

MD165

MD165-1

DOE Policy

DOE acknowledges the commentor's concern regarding the ability of the immobilization approach to meet the Spent Fuel Standard. In the *Nonproliferation and Arms Control Assessment of Weapons-Usable Fissile Material Storage and Excess Plutonium Disposition Alternatives* (DOE/NN-0007, January 1997), DOE identified two potential liabilities of the immobilization alternatives relative to the Spent Fuel Standard. These liabilities involve ensuring sufficient radiation levels and providing removal-resistant can-in-canister designs. Since that time, DOE has modified the can support structure inside the canisters and has focused its research on the ceramic form of immobilization. As part of the form evaluation process, an independent panel of experts determined (*Letter Report of the Immobilization Technology Peer Review Panel*, from Matthew Bunn to Stephen Cochran, LLNL, August 21, 1997) that the can-in-canister design would meet the Spent Fuel Standard. In addition, NAS is currently conducting studies to confirm the ability of the ceramic can-in-canister immobilization approach to meet the Spent Fuel Standard. DOE is confident that immobilization remains a viable alternative for meeting the nonproliferation goals of the surplus plutonium disposition program.

No.	Location	Comment
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2	Executive Summary p. S-14.	Quantities of plutonium considered in the EIS for disposal using the two approaches.
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The draft EIS states, "Since the ROD was issued, however, DOE has determined that an additional 9 tonnes of low plutonium content materials would require additional processing and would, therefore, be unsuitable for MOX fuel fabrication." DOE alternatives include disposing of a maximum of 33 tonnes of plutonium as MOX fuel, while the alternatives include immobilizing 50 tonnes of surplus plutonium.

DOE has never provided justification that any surplus plutonium is not suitable for MOX use. The DOE has not explained what form this "unsuitable" plutonium is in. The technology descriptions in the draft EIS make it clear that various kinds of processing will be used in the Conversion and Immobilization Facility. It would appear to be possible that some of this processing would render material that is suitable for fabrication into MOX fuel. In addition, if a plutonium polishing step is included in the MOX fuel program, such a step may make more of the formerly "unsuitable" plutonium amenable for fabrication into MOX fuel. Finally, the DOE has specified no requirements that the plutonium destined for either MOX fuel or immobilization must satisfy. Therefore, it seems very unlikely that there is any technical basis for any decision about quantities of plutonium that are suitable or unsuitable for either option.

Recommendation:

Given the lack of justification for any decision about quantities of material for the two options, DOE should include the evaluation of a 100% (50 tonne) MOX fuel alternative in the SPD EIS. This is the only way to preserve all appropriate options until the time that the DOE can make a technically defensible evaluation and decision on the allocation of material to the two plutonium disposition approaches.

2

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MD165

MD165-2**Feedstock**

DOE reviewed the chemical and isotopic composition of the surplus plutonium and determined in the *Storage and Disposition PEIS* ROD that about 8 t (9 tons) of surplus plutonium were not suitable for use in making MOX fuel. Furthermore, DOE has identified an additional 9 t (10 tons) for a total of 17 t (19 tons) that have such a variety of chemical and isotopic compositions that it is more reasonable to immobilize these materials and avert the processing complexity that would be added if these materials were made into MOX fuel. The criteria used in this identification included the level of impurities, processing requirements, and the ability to meet the MOX fuel specifications. Section 2.2 includes a description of the forms of plutonium that would be used for MOX feed and immobilization feed, and the levels of impurities present in those materials. As discussed in this section, the plutonium destined for immobilization is mainly in the form of impure oxides, impure metals, plutonium alloys, uranium/plutonium oxide, and some alloyed reactor fuel. Impurities present include neptunium, thorium, and beryllium. None of the material planned for immobilization is in the form of spent fuel, and all of it is considered weapons usable. A further description of the types and amounts of plutonium currently planned for disposition can be found in *Feed Materials Planning Basis for Surplus Weapons-Usable Plutonium Disposition* (MD-0013, April 1997), which is available on the MD Web site at <http://www.doe-md.com>.

No.	Location	Comment	
3	Executive Summary, p. S-8. Appendix D.	<p>Fast Flux Test Facility (FFTF).</p> <p>It is not clear that using the FFTF to destroy nuclear weapons material (plutonium) would be acceptable to the international community if, at the same time, the facility was producing another kind of nuclear weapons material (tritium).</p> <p><i>Recommendation:</i> In discussing the use of the FFTF for a combined plutonium disposition and tritium production mission, DOE should acknowledge that there is a significant nonproliferation issue associated with such a course of action.</p>	3
4	Appendix D, p. D-2.	<p>Fast Flux Test Facility (FFTF).</p> <p>The appendix states "If it were determined that MOX fuel (rather than uranium-only fuel) were needed for the FFTF operations, the MOX fuel fabrication alternatives may be eliminated, depending on the amount of surplus plutonium that would be required for tritium production." However, it is our understanding that the capability to fabricate significant quantities of MOX fuel for the FFTF does not currently exist within the DOE complex.</p> <p><i>Recommendation:</i> DOE should acknowledge that use of the FFTF with plutonium fuel in this manner would require the design and construction of a MOX fuel fabrication facility for the FFTF fuel. It is the light water reactor irradiation of MOX fuel, not MOX fuel fabrication, that might be eliminated by such a course of action.</p>	4

MD165-3

DOE Policy

As discussed in Appendix D of the SPD Draft EIS, DOE did consider FFTF in the *Storage and Disposition PEIS*, but it was eliminated from further study because it was in a standby status and it could not satisfy the criterion of completing the disposition mission within 25 years using the historic FFTF plutonium enrichment specifications. In December 1998, the Secretary of Energy decided that FFTF would not play a role in producing tritium.

MD165-4

DOE Policy

As discussed in Section 1.7.4, Appendix D was deleted because none of the proposals to restart FFTF currently consider the use of surplus plutonium as a fuel source.

No.	Location	Comment	
5	Sections 2.17 and 2.18. Section 4.27.6.	<p>Hot cell examinations of irradiated lead assembly fuel.</p> <p>The environmental impacts in the draft EIS do not appear to include those impacts associated with hot cell examinations. In particular, there is no acknowledgment that the hot cell facilities would be responsible for the disposal of the spent nuclear fuel that results from destructive hot cell examinations.</p> <p><i>Recommendation:</i> DOE should revise the EIS to include these impacts, or note that such impacts are already included in other environmental evaluations.</p>	5
6	Executive Summary, p. S-27. Section 4.28.	<p>Spent Nuclear Fuel.</p> <p>The <i>Storage and Disposition EIS</i> and the draft SPD EIS overstate the impact of MOX fuel with respect to generating additional quantities of spent nuclear fuel. The assumption of minimum burnup (20,000 MWd/MTU) on MOX fuel is uneconomical and therefore inconsistent with the MOX fuel program that DOE has outlined through its Request for Proposal for MOX Fuel Fabrication and Irradiation Services. Additional quantities of spent fuel generated as a result of MOX fuel use should be very small.</p> <p><i>Recommendation:</i> DOE should revise the EIS to more accurately reflect these MOX fuel impacts.</p>	6

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MD165

MD165-5

Lead Assemblies

The two DOE sites, ANL-W and ORNL, proposed for postirradiation examination conduct these types of activities on an ongoing basis. Impacts for activities associated with the postirradiation examination of lead assemblies are within the scope of existing NEPA documentation at these sites and are discussed, for limited resource areas, in Section 4.27.6. Spent fuel after postirradiation examination would be the responsibility of the DOE spent nuclear fuel program. As stated in the ROD for the *DOE Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs Final EIS* (DOE/EIS-0203-F, April 1995), interim storage for this type of spent fuel would take place at INEEL before eventual disposal in a geologic repository. As described in the revised Section 1.6, the preferred alternative for postirradiation examination is ORNL.

MD165-6

MOX Approach

DOE evaluated technical and environmental information provided during the procurement process to acquire MOX fuel fabrication and irradiation services and revised Section 4.28 accordingly.

<u>No.</u>	<u>Location</u>	<u>Comment</u>
7	General	SPD EIS Contractor.
	Appendix B	The SPD EIS includes a Appendix B - Contractor Nondisclosure Statement. In this appendix there is a signed statement that the contractor has no financial interest in the outcome of the project. Given the nature of the statement, it would more appropriately be called a disclosure (vs. nondisclosure) statement. Also, the identity of the SPD EIS support contractor does not appear to be provided anywhere in the SPD EIS, including Appendix B.
		<i>Recommendations:</i> 1. Rename Appendix B "Contractor Disclosure Statement." 2. Identify the support contractor in Appendix B and in the cover section of the SPD EIS.

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MD165

MD165-7

General SPD EIS and NEPA Process

Per the commentor's recommendation, the title of Appendix B is now "Contractor Disclosure Statement," and the name of the contractor, Science Applications International Corporation, appears on the revised form.

Lisa Hamill
Box 392
Carrboro, NC 27510

Re: a sixty day extension of comment period

August 11, 1998
via facsimile # 800-820-5156
Office of Fissile Materials Management
U.S. Department of Energy
PO Box 23786
Washington, D.C. 20026-3786

Dear Sir or Madam:

I write to request both a sixty-day extension of the public comment period and additional public hearings in North Carolina on the Draft Surplus Plutonium Disposition Environmental Impact Statement. I write also to support requests by other citizens' groups and individuals for additional public hearings in affected communities. The SPDEIS is the latest National Environmental Policy Act document that will help shape decisions on how to dispose of up to fifty metric tons of weapons usable plutonium that has been declared surplus to national security needs. Full public debate must occur now.

Extend the Public Comment Period for Sixty Days

The Department of Energy is allowing for a sixty-day comment period for people to review and provide comments on a large, complex document that references twenty-eight other related NEPA documents, an economic report that not released until July 28, 1998, and numerous Data Reports. The Data Reports are unavailable to people who are not near a Department of Energy Reading Room, yet contain crucial information. For example, on page J-4 of the Draft SPDEIS, DOE wrote that, "source term data for radiological releases, stack heights, and release locations are provided in the Data Reports for the pit conversion, immobilization, and MOX facilities." In other words, the Draft SPDEIS does not contain any data on something as basic as expected quantities of radioactive air pollutants.

Provide for Additional Public Hearings

The Department of Energy is planning only five public hearings, four in the communities closest to DOE sites being considered for new plutonium processing plants, and one regional meeting in a downstream community (Portland). This public hearings schedule will likely dilute the diversity of public comments; inhibit the involvement of downwind and downstream communities that generally bear liabilities without benefits; and skew the public opinion curve in favor of DOE proposals.

DOE should add the following hearings to its list:

1. Regional Hearings in Savannah, Georgia and Columbia, South Carolina. The Savannah River Site is the preferred candidate site for all three new plutonium processing facilities. Real impacts on the Savannah River from SRS operations and accidents are well documented, with the most notable being the December, 1991 tritium leak that quickly reached Savannah, Georgia. DOE cannot justify a lack of public hearings in Savannah or Columbia, which will bear the greatest

FD224

FD224-1

General SPD EIS and NEPA Process

DOE believes that the comment period allowed sufficient time for public review of the SPD Draft EIS. Although it did not extend the comment period, DOE did consider all comments received after the close of that period. All comments were given equal consideration and responded to.

DOE's descriptions of the affected environment and the potential environmental impacts in this SPD EIS are in accordance with 40 CFR 1502.15 and 40 CFR 1502.16. These descriptions are no longer than necessary for an understanding of the effects of the alternatives, and the analyses and data are commensurate with the significance of the impact, the less-important information being consolidated, summarized, or referenced. Resources such as the data reports are available in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

FD224-2

General SPD EIS and NEPA Process

It was not possible to hold hearings in all areas of the country; therefore, the hearings were restricted to locations where the greatest impacts of the proposed surplus plutonium disposition facilities could be expected. DOE did, however, provide various other means for public comment on this SPD EIS: mail, a toll-free telephone and fax line, and the MD Web site. During preparation of the *Storage and Disposition PEIS*, regional hearings were held in locations such as Boston, Chicago, San Francisco, and Denver. Denver was included because the PEIS dealt with the removal of materials from RFETS. DOE made, and is honoring, a commitment to get all plutonium out of RFETS. Additional hearings in Denver were not held because the proposed surplus plutonium disposition facilities would not be sited in the area. Shipment of MOX fuel to Canada for testing is under consideration as part of a separate EA, and is beyond the scope of this EIS. The *Environmental Assessment for the Parallax Project Fuel Manufacture and Shipment* (DOE/EA-1216, January 1999) and FONSI (August 1999) can be viewed on the MD Web site at <http://www.doe-md.com>.

liability from its proposals.

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2. Regional hearings in communities near nuclear reactor sites that are being proposed for irradiation of Mixed Oxide (MOX) fuel. Consortia of utilities and nuclear fuel fabricators are scheduled to submit Proposals for MOX Fuel Fabrication and Irradiation Services August 1998. We request that a public hearing be held in Raleigh and Charlotte, North Carolina, where reactor communities and the affected public are located.

DOE has stated that "environmental impact analysis relating to specific reactors will be included in the SPD Final EIS," although these analyses are scheduled to be made by Consortia in their Proposals. During the 1997 Scoping for the SPDEIS, DOE was repeatedly asked to involve nuclear reactor communities in the NEPA process, yet ignored these comments while moving forward on a process to select reactor sites that excludes community input. DOE cannot justify soliciting public comment for the site selection process for plutonium processing facilities, while excluding public involvement in selecting plutonium irradiation facilities.

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3. A regional hearing in Denver, Colorado. Denver is in proximity to Rocky Flats where approximately 25% of the surplus plutonium is in storage, so the area has a stake in the decisions being made. Furthermore, DOE has never held hearings to discuss plutonium immobilization of Rocky Flats plutonium as a reasonable alternative, and is proposing to weaken the requirements for shipping plutonium from Rocky Flats to Savannah River Site.

4. A regional hearing in Dallas, Texas. Dallas is likely to be in the transportation corridor for shipments of special nuclear materials and radioactive waste from new operations. The Department of Energy cannot legitimately claim that state-wide support exists in Texas for Pantex becoming a new DOE plutonium processing site without seeking input from outside the Amarillo area.

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5. A hearing in Washington D.C., where decisions are made, policy is formulated, and a substantial community of non-governmental organizations exists to monitor the Department of Energy, and where a larger community of organizations exists to monitor how taxpayer dollars are spent.

6. Port Huron, Michigan (or other location), the location of the border crossing for plutonium fuel shipments to Chalk River, Ontario to test in CANDU reactors. DOE is still considering the option of burning MOX fuel in CANDU reactors, yet has effectively excluded Canadian citizens from the process. The hearing could be a cooperative public event held with the Atomic Energy of Canada, Ltd.

The abundant uncertainties and recent changes in direction in the Department of Energy's hazardous plutonium disposition program indicates a continued need to subject Federal proposals to the highest and most rigorous levels of public debate possible. DOE has already failed to implement the easiest part of its plutonium storage and disposition program. At Pantex it has abandoned its new "safer" container and a proposed facility upgrade for plutonium pit storage. For Rocky Flats plutonium, it is already amending the "Record of Decision" for the "Storage and Disposition of Weapons-Usable Fissile Materials Final Programmatic Environmental Impact Statement" to "address the environmental impact of utilizing the K-Reactor facility for plutonium storage, the possibility that plutonium stabilization would be done at SRS instead of at RFETS, the shipment of plutonium to SRS before the AP3F storage vault is operational, the shipment of some materials from RFETS that are less than 50% plutonium, and the need to utilize direct metal casting in FB-Line to de-classify some of the RFETS." (Defense Nuclear Facilities Safety

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FD224

DOE actively sought public comments on the SPD Draft EIS and distributed approximately 1,700 copies of the document to all interested parties. All comments, regardless of how they were submitted, were given equal consideration and responded to.

FD224-3

General SPD EIS and NEPA Process

Regional public hearings on the nuclear reactor sites proposed for the irradiation of MOX fuel could not be conducted during the public comment period for the SPD Draft EIS, as no sites had been designated by that time. The SPD Final EIS was not issued until specific reactors had been identified and the public had an opportunity to comment on the reactor-specific information. As part of the procurement process, bidders were asked to provide environmental information to support their proposals. This information was analyzed in an Environmental Critique prepared for the DOE source selection board prior to award of the MOX fuel fabrication and irradiation services contract. DOE then prepared an Environmental Synopsis on the basis of the Environmental Critique, which was released to the public as Appendix P of the *Supplement to the SPD Draft EIS* in April 1999.

FD224-4

General SPD EIS and NEPA Process

Since the inception of the fissile materials disposition program, DOE has supported a vigorous public participation policy. It has conducted public hearings in excess of the minimum required by NEPA regulations to engender a high level of public dialogue on the program. The office has also provided the public with substantial information in the form of fact sheets, reports, exhibits, visual aids, and videos related to fissile materials disposition issues. It hosts frequent workshops, and senior staff members make presentations to local and national civic and social organizations on request. Additionally, various means of communication—mail, a toll-free telephone and fax line, and a Web site (<http://www.doe-md.com>)—have been provided to facilitate the public dialogue. It is DOE policy to encourage public input into these matters of national and international importance.

Board Weekly Report for Savannah River Site, June 26, 1998).

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The National Environmental Policy Act requires Federal Agencies to insure that high quality "environmental information is available to public officials and citizens before decisions are made and before actions are taken", and that substantial and meaningful public involvement in the planning and decision process. By restricting public hearings to a few communities, DOE would be violating the spirit of NEPA.

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Signed,

Lisa Hamill

Lisa Hamill

FD224

FD224-5

Storage and Disposition PEIS and ROD

DOE acknowledges the commentor's concern regarding the safe storage of plutonium pits at Pantex. DOE is committed to the safe, secure storage of pits and is evaluating options for upgrades to Pantex Zone 4 facilities to address plutonium storage requirements. DOE has addressed some of the commentor's concerns in an environmental review concerning the repackaging of Pantex pits into a more robust container. This evaluation is documented in the *Supplement Analysis for: Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components—AL-R8 Sealed Insert Container* (August 1998). This document is on the MD Web site at <http://www.doe-md.com>. Based on this supplement analysis, the decision was made to repackage pits at Pantex into the AL-R8 sealed insert container and to discontinue plans to repackage pits into the AT-400A container.

FD224-6

Storage and Disposition PEIS and ROD

DOE conducted a supplement analysis for the early movement to and storage of the RFETS surplus plutonium in Building 105-K after modifications to enable safe, secure plutonium storage. Based on this analysis, DOE issued the amended ROD, referenced by the commentor, in the Federal Register (63 FR 43392) on August 13, 1998, in fulfillment of the letter and spirit of NEPA (40 CFR 1506.6(b)). The decision is contingent on a decision under this SPD EIS to locate an immobilization facility at SRS. A copy of the amended ROD and the supplement analysis is available in the DOE reading rooms and on the MD Web site at <http://www.doe-md.com>.

Howard R. Canter, Acting Director
U.S. Department of Energy
Office of Fissile Materials
P.O. Box 23786
Washington, D.C. 20026-3786

September 16, 1998

Re: SUPPLEMENT TO COMMENTS SUBMITTED DURING PUBLIC COMMENT PERIOD.
SURPLUS PLUTONIUM DRAFT ENVIRONMENTAL IMPACT STATEMENT. SPD EIS

Dear Director Canter:

Please include the following correspondence, submitted by facsimile transmission, as part of the official record of proceedings in the above referenced public comment period. The information discussed herein was not available to me as of 9/15/98, and therefore, could not be included in comments of 9/15/98.

United States Enrichment Corporation was created under congressional mandate of Energy Policy Act of 1992. In February of 1994 DOE published notice to the public in the Federal Register, USING A FINDING OF NO SIGNIFICANT IMPACT (FONSI), that The Nuclear Regulatory Commission (NRC) would assume watch dog status of both the Portsmouth Gaseous Diffusion Plant and the Paducah Gaseous Diffusion Plant due to transfer from public ownership (under DOE) to private/commercial operations (under NRC). I submitted comments objecting to agency intent which included objection to the agency's use of a FONSI: finding of fact of no significant impact! The rationale, I was later informed, was that environmental, health and safety impacts, and risks to the general public would be the same conditions as previously existed under DOE oversight and management.

As stated in correspondence of 9/15/98 to the agency, DOE is prolific in production of documents, holding public information meetings, and making documents, upon request, available to interested members of the public. DOE maintains an information center in close proximity to the Portsmouth Gaseous Diffusion Plant. NRC has no such public involvement and public information process. NRC, in fact, refused to accept comments from me, personally, which pertained to the Portsmouth Gaseous Diffusion Plant BECAUSE I HAD NO STATUS, ACCORDING TO NRC DETERMINATION, AS A DIRECTLY AFFECTED PARTY!! It is noteworthy herein that NRC has since "modified" its public comment periods on nuclear power plants TO ALLOW COMMENTS FROM ONLY DIRECTLY AFFECTED PARTIES which NRC interprets to be groups and/or individuals who live in proximity of the individual nuclear power plants and who can demonstrate their status as directly affected parties in NRC proceedings. Contrary to Administrative Procedure Act (which states, among other things, that any citizen, taxpayer, and/or interested party MAY SUBMIT COMMENT AND PARTICIPATE in proceedings,) to the best of my knowledge, NRC has continued to preclude parties from proceedings if NRC determines these parties to lack status as defined by NRC.

NRC APPARENTLY ALSO DETERMINES WHAT IS AND OF EQUAL IMPORTANCE, WHAT IS NOT DISCUSSED/REVEALED TO THE PUBLIC AT SEMI-ANNUAL PUBLIC INFORMATION SESSIONS HELD TO DISCUSS TROUBLED NUCLEAR PLANTS!!! NRC failed to include

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MD280

MD280-1

General SPD EIS and NEPA Process

DOE acknowledges the commentor's remarks concerning policies of NRC. However, DOE has no authority in matters pertaining to policies and practices of NRC.

DOE acknowledges the commentor's remarks concerning operations at Portsmouth and Paducah. As described in Section 1.5, DOE may elect to use depleted uranium hexafluoride stored at these gaseous diffusion plants to produce the uranium dioxide that would serve as feed material during fabrication of MOX fuel and for the ceramic immobilization process. Approximately 0.04 percent (145 t [160 tons]) of DOE's current inventory of depleted uranium hexafluoride would be used annually for this purpose. Environmental analyses supporting this SPD EIS used Portsmouth as a representative source for depleted uranium hexafluoride. As discussed in Chapter 4 of Volume I, no major environmental effects would result from the use of depleted uranium hexafluoride in the production of uranium dioxide.

USEC was created by Congressional mandate under Title IX of the Energy Policy Act of 1992. As described in Section 1202, USEC was created for several purposes, one of which is to maximize the long-term value of USEC to the Treasury of the United States. There is no conspiracy involving DOE to misuse public funds in the matter of USEC or any other matter.

DOE acknowledges the commentor's remarks concerning the requirement for environmental impact statements at Portsmouth and Paducah. As discussed in Section 1.8.1, environmental conditions at Portsmouth and Paducah are described in the *Final Programmatic Environmental Impact Statement for Alternative Strategies for the Long-Term Management and Use of Depleted Uranium Hexafluoride* (DOE/EIS-0269 April 1999).

CAHALL, DIANA I.
PAGE 2 OF 3

discussion of safety concerns at both the Portsmouth and Paducah Plants "to avoid embarrassment on the day after the plants were sold to the public."
ATTACHMENT I.

To clarify: both plants were public property (government ownership) until they were transferred to USEC beginning in 1994 (privatization), and then, in 1998 USEC offered stock in both the plants for sale to private investors in public offering!! The "transfer" of government/public property to USEC was estimated to be \$1.4 BILLION DOLLARS in property and technology. It is most interesting that NRC FAILED TO INCLUDE WHAT THE COMMISSION KNEW TO BE "PROBLEMS" at the Ports and Paducah Plants in semi-annual "information" session held by NRC the day after public stock offering. It is also most interesting that private investors bought what the American taxpayers already owned and had paid for resulting from the "privatization" process!! The term 'complicity' as referenced in comments of 9/15/98 certainly seems to apply to this wheeling and dealing with public funds by DOE/USEC/NRC.

In further 'complicity,' DOE failed to require an Environmental Impact Statement which fully addressed environmental problems PRIOR TO TRANSFER TO USEC at the Portsmouth and Paducah Gaseous Diffusion Plants during the "privatization process." Likewise, NRC has failed to reveal/disclose known problems to both the public, and the private investors who purchased stock in the plants only one day prior to NRC's semi-annual "information" session!
See ATTACHMENT II, paragraph 7. Note that safety concerns not disclosed by NRC included potential risks/damage from earthquake at one plant and potential risk of 'unintended' nuclear chain reaction from storage of too much uranium in one place!

An interested party, citizen, and/or taxpayer might well ask what agency, if any, is protecting the public health, safety, and property in the process being practiced at these uranium plants?!? From personal experience, kill-the-messenger is descriptive of the response to my questions regarding the operational safety, environmental legacy, risks to the public and workers, and 'wisdom' of 1.4 Billion dollar taxpayer gifts to private interests from multiple agencies! The goals of 'SHOOT-AT-THE-CORPSE'-
1) silencing others on the scene from revealing the real perpetrators- and 2) making guilt dispensable- appear to be pertinent issues for comment.

In conclusion, I would respectfully remind the agency that DOE is mandated by various federal laws, other than Energy Policy Act of 1992, which require the agency to represent the best long term interests of the public and the nation.

Respectfully submitted,

Diana I. Cahall
Diana I. Cahall (Note: formerly known as Diana Salisbury)
7019 Ashridge Arnhelm Road
Sardinia, Ohio 45171 (937) 446-2763

Attachment

(via telecopier transmission to 1-800-820-5156,
on 9/16/98, and by, The U.S. Postal Service, regular
mail, postage prepaid on 9/16/98.

2

MD280

THE CINCINNATI ENQUIRER

9/16/98 PA 17
**Secrecy
by NRC
on plants
faulted**

Attachment I

BY MATTHEW L. WALD
The New York Times

WASHINGTON — The Nuclear Regulatory Commission (NRC) has kept quiet about its safety concerns over two uranium fuel processing plants in order to avoid embarrassment on the day after the plants were sold to the public, a nuclear watchdog group said Tuesday.

Documents obtained by the group, the Union of Concerned Scientists (UCS), show that the NRC, which oversees civilian nuclear operations and some Energy Department plants, had many safety concerns, including how well one plant would withstand an earthquake and whether operators took adequate precautions to prevent the storage of too much uranium in one place, which could cause an unintended nuclear chain reaction — essentially a small explosion.

The plants, in Portsmouth, Ohio, and Paducah, Ky., which were built by the federal government to process uranium for weapons, naval propulsion reactors and civilian power plants, were sold in an initial public offering this summer, when the Energy Department spun them off as the U.S. Enrichment Corp.

The management team that ran the two plants before the spinoff now runs the corporation.

The NRC held one of its twice-a-year public sessions to discuss troubled nuclear plants the day after the sale was completed but did not discuss the two plants.

"Investors are supposed to make their own decisions, what risk they're comfortable with," said David Lochbaum, a nuclear engineer with the UCS. "But they can only do that when they have a clear idea of the risks."

NRC spokesman William Beecher said the commissioners were familiar with the plants' problems from previous reports.

MD280

Howard R. Canter, Acting Director
U.S. Department of Energy
Office of Fissile Materials
P.O. Box 23786
Washington, D.C. 20026-3786

September 15, 1998

Re: PUBLIC COMMENT, SURPLUS PLUTONIUM ENVIRONMENTAL IMPACT STATEMENT (SPD EIS)

Dear Director Canter:

Please include this correspondence as part of the agency's official record of proceedings in the above referenced matter.

Due to considerable demands upon both my time and energy from other matters, I am submitting what I consider to be comments that address the crucial issues in the agency's SPD EIS generally rather than specifically.

The agency obviously must take responsibility for doing something, i.e., inaction is not a reasonable alternative in the "solution" to plutonium disposition. DOE has produced prolific information for public comment on the agency's proposed actions. This comment is NOT intended as criticism of the agency's SPD EIS. Rather, DOE is providing information necessary for "informed" public participation and, for that, deserves to be commended.

SPD Draft EIS makes numerous references to technology in the development or yet-to-be-developed/available stages. The public cannot make comment on the wisdom or appropriateness of technology not known to the public. Although, DOE appears to have knowledge of technology that is so-to-speak coming down the road. Likewise, DOE makes multiple references in Draft SPD EIS to commercial facilities, especially commercial facilities for Hazardous Waste treatment, storage, and disposal. The agency appears to be strongly leaning toward incinerator/reduction to ash as one such commercial facility/solution.

DOE does, in fact, acknowledge that agency actions in plutonium disposition will result in multiple other actions which will occur directly and indirectly as consequences of DOE decision-making. DOE is, in fact and law, required to fully address these impacts/consequences in draft EIS. Transfer of materials to commercial facilities does not relieve DOE of NEPA mandate and/or agency responsibility to the public, numerous affected and to-be-affected communities, the environment, and the nation's safety and security. DOE has, in fact, co-operated with multiple federal, state, and local agencies, and proposed in draft EIS to continue this considerable "co-operation." Translated into simple terms members of the public can comprehend, DOE has historically SHARED THE PUBLIC'S FUNDS WITH OTHER AGENCIES IN PLANNING, CONSTRUCTING, AND OPERATING FACILITIES (implementing 'solutions') such as the ones described in draft EIS.

MD192-1

General SPD EIS and NEPA Process

DOE acknowledges the commentor's support for DOE's public outreach and providing information necessary for informed public participation. In Sections 2.5 and 4.2, the No Action Alternative and its environmental impacts is described as required by 40 CFR 1502.14. This description makes clear to the public and decisionmakers the environmental impacts of taking no action rather than implementing the proposed action.

MD192-2

General SPD EIS and NEPA Process

The methods DOE proposes to use for surplus plutonium disposition are based on proven and well-understood technologies. Technological work cited in this SPD EIS is work required to adapt those technologies to the disposition of surplus plutonium and the engineering studies required to design the disposition facilities to meet specific program needs. Basic science or proof of principal scientific work is required to implement the surplus plutonium disposition program.

Hazardous waste management is discussed in Hazardous Waste sections in Chapter 4 of Volume I and Section 1.8.2. DOE plans to handle hazardous waste generated as a result of the surplus plutonium disposition program in accordance with the decisions made on the *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste* (DOE/EIS-0200-F, May 1997). The decision on hazardous waste, excluding wastewater, was to continue to use off-site facilities for treatment at all sites except ORR and SRS, where a combination of off-site and existing on-site facilities may be used.

MD192-3

General SPD EIS and NEPA Process

The term "cooperating agency" in this EIS has a narrower sense than that used by the commentor. DOE's use of the term is in accordance with the definition stipulated in 40 CFR 1501.5: another Federal agency that has jurisdiction by law and/or has special expertise with respect to any environmental issue.

Co-operating local, state, and federal agencies are too numerous to mention in brief comments. However, implementation requires considerable funding to and distributed by Departments of Transportation (local, state, and federal) for highway infrastructure projects. HUD requires funding (for distribution) to build housing required during facility construction phase, etc. Furthermore, numerous state and local agencies have "re-aligned" and "re-organized" in the process of implementing "solutions". Recycling and waste reduction funding appears to be most abundant for distribution in Ohio. The Brown County (Ohio) Board of Commissioners are the grantees of a recycling grant received by the Highland County (Ohio) Board of Commissioners (making the Highland County Board grantees of funds and grantors to the Brown County Board of Commissioners)!!! Obviously, the Brown County Board of Commissioners as grantees will not directly implement the recycling grant; it is to be passed through (granted again) to Adams/Brown Recycling, Inc. a not-for-profit! I have noted to the Brown County Board of Commissioners that Ohio Revised Code, Section 1702 prohibits the Board from acting as a conduit for state or federal funds in Civil Case No. 970242, Brown County Court of Common Pleas, and again, in Administrative Petition of 8/14/98. As of the date of this correspondence, I have received no response from the Board of Commissioners to 8/14/98 Administrative Petition.

DOE may, but should not, consider previous paragraph as distraction/off-the-point in DOE decision-making issue(s). Briefly stated, the multitude of agencies, governmental units, not-for-profits, quasi-governmental agencies, and private/public partnerships ARE ALL COOPERATING AGENCIES AND STAKEHOLDERS IN FUNDING DISTRIBUTION(S)! LIKEWISE, THEY ARE CO-OPERATORS IN DECISION-MAKING AND IMPLEMENTING. The public has, figuratively speaking, considerable difficulty in getting a foot-in-the-door in the decision-making process with so many insiders already huddled inside and poised to spring into various related actions!

In conclusion, I am quoting from Georgie Anne Geyer's editorial comment in today's CINCINNATI ENQUIRER:

Where I came from, on the South Side of Chicago, complicity meant more than simply involving others-or being involved oneself -in an act, innocent, criminal, or in-between. It denoted the old Mafia idea of having everybody 'shoot at the corpse' so 1) nobody would talk about the real perpetrator of a crime and 2) guilt was dispensable. ATTACHMENT 1, "The Quintessential Con Man"

The subject of Ms. Geyer's editorial is the American president, however, the substance of her observations are focused upon the shaping of public policy, and the considerable art of politics involved in making so many guilty of "complicity" in following-the-leader. DOE is, in fact and practice, participating in 'shoot-at-the-corpse' decision-making with considerable federal (taxpayer) dollars involved in the process! The public deserves public hearings and decision-making process with considerably more access and much less complicity.

3

Thank you for opportunity to comment on draft SPD EIS and for agency policy which allows for distribution of information allowing (somewhat) informed comment.

3

Respectfully submitted,

Diana I. Cahall

Diana I. Cahall (Note: formerly known as Diana Salisbury)
7019 Ashridge Arnhem Road
Sardinia, Ohio 45171
(937) 446-2763 telephone or 446-4616 fax

Attachment

(VIA: THE U.S. POSTAL SERVICE, REGULAR MAIL, POSTAGE PREPAID ON
9/15/98, AND TELECOPIER TRANSMISSION TO 1-800-820-5156
ON 9/15/98
at approx. 3:15 P.M.

MD192

Attachment I



THE CINCINNATI ENQUIRER

EDITORIAL PAGE

FOUNDED 1841 • A GANNETT NEWSPAPER

Editor: Peter Bronson
Phone: 768-8359 Fax: 768-8610

A6 TUESDAY, SEPTEMBER 15, 1998

GEORGIE ANNE GEYER: Clinton makes us complicit in his lies

The quintessential con man

WASHINGTON — Not only are the problems of Bill Clinton's decadent presidency still out there, but so too are the questions: Why does he do these things? Where will his wanton habits lead this country? And, above all, why do so many Americans remain so tentative about making judgments about his admitted actions?



Of the billions of words that have been written (none of them, I contest, very gratifying), I note that one key word has not been used. The word is "complicity."

★ Where I come from, on the South Side of Chicago, complicity meant more than simply involving others — or being involved oneself — in an act, innocent, criminal or in-between. It denoted the old Mafia idea of having everybody "shoot at the corpse" so 1) nobody could talk about the real perpetrator of a crime and 2) guilt was dispensable. ★

The case of this American president is reminiscent of dictators or autocratic leaders who are essentially demagogues, "charismatic" authorities and (perhaps above all) con men. They tie their malleable followers to them by making the followers dependent upon them and by giving them the impression that they are inextricably involved in the decisions, so much so that, even when the leaders fail, the followers can-

not easily divest themselves of responsibility.

Above all, their tie to the people is emotional, not rational and not intellectual, and that truth lies at the heart of the complicitious bond. With emotions it is far more difficult to cut ties. You cannot just say, "I disagree and therefore I leave." You are tied forever, or you break away at the cost of substantial moral and physical trauma. You, after all, are the one who chose (or so you think) to believe for so long.

Bill Clinton's ability to make the people around him complicitous in his actions and fate is, of course, infinitely inferior to the real historical complicity-mongers such as Fidel Castro or Joseph Stalin. Castro tied people to him so tightly that many of those who did break with him spent years trying painfully to reconstruct themselves, while Stalin's emotional and ideological tyranny was of such power that his closest followers got up in Russian courts in the 1930s and, though innocent, con-

demned themselves to death. They could not admit, as some communists said even this past decade, that their lives had been lived in the service of a false idol.

Admittedly, Bill Clinton is a poor man's charismatic leader, compared to those masters of the craft. Yet he has many of the same characteristics: the same dependence upon rhetoric over reality and the same quintessential con man's ability to make people want to believe, to cite two.

How else can one explain the degree to which so many Americans still need to believe in him so much that they refuse to condemn him? How can anyone really understand the troubling reality that virtually none of his White House "team" have resigned in protest over his actions?

They have all become his amoral accomplices. How, too, can one explain Hillary? If she didn't know about Monica, she is too dumb and unperceptive to be first lady. Of course she did. But she made a Faustian pact with the devil many years ago that Bill Clinton would give her the political charisma to fuel her own abundant ambitions.

She made herself complicitous, and now there is no exit. What is troubling is that, as the great German sociologist Max Weber wrote in the last

century, the charismatic con men come to power (Weimar Germany, czarist Russia, pre-Castro Cuba) when a people is weak and disheartened. What does that say about so many Americans' amoral need to believe in this obviously flawed man today? In their willingness to cede their judgment to him?

What is troubling, too, is that so many Americans have accepted the Clintons' cynically distorted interpretation of life. They really believe there is no difference between one man's love affair and a leader's sexual predatoriness.

On the other hand, it is relatively easy to defeat these leaders if people have enough will to overcome their feelings of guilt and of self-imposed complicity. All they need to do is withdraw. That is the death knell for the charismatic leader, who in the end is also totally dependent upon them.

That hasn't happened yet, but as more of his disgraceful conduct is revealed, it very well may. Until then, those Americans who need so badly to believe in Bill Clinton are shooting at the corpse.

Georgie Anne Geyer is a Washington-based, syndicated columnist. Readers may write to her c/o Universal Press Syndicate, 4900 Main St., Kansas City, Mo. 64112.

MD192

STAND OF AMARILLO, INC.
 HARRIET MARTIN
 PAGE 1 OF 2

August 13, 1992

US Department of Energy
 Office of Fissile Materials Disposition
 PO Box 23786
 Washington DC 20026-3786

Re: Pantex hearings on
 plutonium processing - August 11, 1992
 Amarillo, Texas -

To US dept of Energy:

As a former resident of Amarillo, Tx, and
 a current member of STAND, I am writing
 to express my opinion that processing
 plutonium on an industrial scale, or for that
 matter, on any scale whatsoever, is contrary to
 common sense and irresponsible to the local
 residents and to the population of the USA.

The Texas Panhandle is a prime agricultural
 area which deserves the best environmental
 protection this country can provide, and
 should not be endangered by the plutonium
 disposition problem. The air, soil, and especially
 ground water, if contaminated by waste
 plutonium would be permanently lost to
 this country and the world. We can't risk
 that.

(over) next page

MD021

MD021-1

Alternatives

DOE acknowledges the commentor's opposition to siting the proposed surplus plutonium disposition facilities at Pantex. The analyses presented in Section 4.26.3.2.2 indicate that the normal operation of these facilities would likely have minor impacts on human health, agriculture, and livestock: Sections 4.17.1.4 and 4.17.2.4 address the potential radiological and hazardous chemical effects of the maximum-impact alternative on workers and the public at Pantex; Appendix J.3, the potential contamination of agricultural products and livestock, and consumption of these products by persons living within an 80-km (50-mi) radius of Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

STAND OF AMARILLO, INC.

HARRIET MARTIN

PAGE 2 OF 2

I am opposed to any industrial or profit motivated uses of plutonium. I believe fissile materials technology has a failing grade - a grade of 50% - that is, we know how to make it, but we don't know how to use make it. Until this technology is developed, plutonium production should be discontinued, I believe, and existing plutonium should be kept stable, guarded well - on site - and not moved around. The perfection of MOX would have to be demonstrated repeatedly, as the FDA drug trials - or much better than that, before industrial scale plans are made. MOX appears to be mostly on the drawing board to me. As a concerned citizen, I urge you at the Dept of Energy to take conservationist approaches to even issue involving fissile materials, and I see your responsibility as guarding the country against exposure to them - until the ability to convert these products to stable elements is divided -

Sincerely
Harriet Martin
member of STAND
POB 1219, Athens OH 45704

2

MD021

MD021-2

DOE Policy

DOE acknowledges the commentor's opposition to the industrial use of plutonium, the production of plutonium in general, and MOX fuel fabrication. The United States no longer produces plutonium and DOE is not proposing any option to make a profit. The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. Converting the surplus plutonium into MOX fuel and using it in domestic, commercial reactors is an effective way to accomplish this.

DOE analyzed numerous alternative disposition technologies in the *Storage and Disposition PEIS*. Immobilization and MOX fuel fabrication were chosen by DOE as the best options to further analyze in this SPD EIS. MOX fuel fabrication is not a new technology. The fabrication of MOX fuel and its use in commercial reactors have been accomplished in Western Europe. This experience would be used for disposition of the U.S. surplus plutonium.

When Secretary Perle's announcement that Savannah River will be the site of the new plutonium fuel manufacturing facility, it would seem that perhaps we should not thank you for not siting new plutonium manufacturing here in the Northwest and take the rest of the evening off.

But, some reasons why it is bad for the Northwest apply anywhere. ~~MOX is the worst method~~ MOX is the worst method. It is slow - must be run for 12 years. It involves subsidizing nuclear power reactors. It risks pure forms of plutonium falling into the hands of people who wish to make n-weapons, particularly as part of the Russian MOX system. It generates many additional tons and gallons of extremely hazardous nuclear and chemical wastes, and it costs a lot more than immobilization.

It is really a very simple discussion. ~~problem to consider~~ is a much better alternative. What spurs the decision in favor of MOX is the collision of the Russian, American, and European nuclear power industries.

I would wish you, Mr. Knowlton to convey a message to Secretary Richardson and Vice-President Gore

ORD09

ORD09-1

Alternatives

DOE acknowledges the commentor's opposition to the MOX approach. DOE analyzed each environmental resource area in a consistent manner across all the alternatives to allow for a fair comparison among the alternatives and among the candidate sites for surplus plutonium disposition facilities. Use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. The MOX facility would produce nuclear fuel that would displace LEU fuel that utilities would have otherwise purchased. If the effective value of the MOX fuel exceeds the cost of the LEU fuel that it displaced, then the contract provides that money would be paid back to the U.S. Government by DCS based on a formula included in the DCS contract. The commercial reactors selected for the MOX approach include only those reactors whose operational life is expected to last beyond the life of the surplus plutonium disposition program.

Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. By working in parallel with Russia, the United States can reduce the chance that weapons-usable nuclear material could fall into the hands of terrorists or rogue states and help ensure that nuclear arms reductions will never be reversed. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

As described in Sections 2.18.3 and 4.28.2.8, additional spent fuel would be produced by using MOX fuel instead of LEU fuel in domestic, commercial

we are not fooled, this is not a non-proliferation program, it is not a conversion of swords into plowshares, but it is the attempt of the nuclear power industry to convert ~~the world's plutonium~~ to ~~use~~ a plutonium-fuel economy, ~~and~~ subsidized by the US government.

Please explain to Mr. Gore, who wants to be our ~~new~~ environmental president, that Northwest environmentalists ~~are not~~ ^{risking} ~~to~~ will figure out that this is a very dangerous ~~and~~ ~~deal~~ sweetheart deal for the nuclear power industry, ~~and~~ ~~we~~ ~~are~~ ~~not~~ ~~going~~ ~~to~~ ~~explain~~ ~~that~~ ~~to~~ ~~them~~, especially politically, Mr. Knowlton, that could very hazardous for him out here, as we begin to explain MOX and why it is a bad idea for our WPPSS II reactor here at Hanford.

Thank you.

ORD09

reactors. Spent fuel management at the proposed reactor sites is not expected to change dramatically due to the substitution of MOX assemblies for some of the LEU assemblies. Likewise, the additional spent fuel would be a very small fraction of the total that would be managed at the potential geologic repository. Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

**POSITIONS AND STATEMENTS
PLUTONIUM PROCESSING AND MIXED OXIDE (MOX) FUEL**

"We oppose the processing, reprocessing and the production of mixed oxide fuel (MOX) in areas where there is possibility or risk of pollution and contamination of agricultural land, air, and groundwater."

State Policies of the Texas Farm Bureau. 1998. Pages 36-37, Section 137, Lines 24-28

American Farm Bureau Federation Policies for 1998, Page 112, Section 121, Lines 38-41

1

"The Party recognizes the value of alternative energy and supports continued private research and development of such sources, but we oppose the federal government using hazardous waste as an alternative energy source, such as the processing and/or reprocessing of plutonium and uranium for making Mixed Oxide fuel in agricultural areas and above major water sources."

Texas Republican State Party 1998 Platform for "Alternative Energy Sources"

2

"Since the manufacture of nuclear reactor fuel rods has usually led to environmental contamination of land, air, and water, and since the Pantex Plant near Amarillo, Texas is located over the Ogallala Aquifer, the country's largest aquifer, and in the midst of one of the country's largest grain-and-cattle-producing regions, the Democratic Party of Texas opposes the U.S. Department of Energy plan to produce Mixed Oxide (MOX) fuel from plutonium and uranium at the Pantex Plant, or any other form of plutonium processing."

Texas Democratic State Party 1998 Platform

3

"A consortium has been formed between Bechtel, BNFL International, and Westinghouse. GE chose not to participate. GE will not receive, store, process, transport, or take title to any material in any stage of the MOX process. I think you have other people to deal with on this one and not GE. Thank you very much."

Statement by General Electric Corporation Chairman of the Board Robert Welch at annual General Electric shareholders meeting, April 1998

4

ORD14

ORD14-1

MOX Approach

DOE acknowledges the commentor's opposition to the MOX approach to surplus plutonium disposition. U.S. policy dating back to the Ford Administration has prohibited the commercial, chemical reprocessing and separation of plutonium from spent nuclear fuel. The use of U.S. surplus plutonium in existing domestic, commercial reactors does not involve reprocessing (reprocessing is a chemical separation of uranium, transuranic elements [including plutonium], and fission products from spent reactor fuel and the reuse of the plutonium and uranium to produce new fresh fuel). This SPD EIS analyzes the potential environmental impacts associated with the MOX facility. As presented in Chapter 4 of Volume I and summarized in Section 2.18, potential impacts of construction and normal operation of the MOX facility would likely be minor.

ORD14-2

MOX Approach

Use of MOX fuel in domestic, commercial reactors is not proposed as an alternative energy source. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors.

ORD14-3

MOX Approach

Sections 4.17, among others, and 4.26.3 analyze impacts to the environment, including air, soils, and Ogallala aquifer due to construction and normal operation of the MOX facility at Pantex. There would be no discernible contamination of aquatic biota (fish) or drinking water resulting from the proposed surplus plutonium disposition facilities at Pantex, either from minute quantities of air deposition into small water sources or from any potential wastewater releases. Therefore, it is estimated that no measurable component of the public dose would be attributable to liquid pathways. Appendix J.3 includes an analysis of potential contamination of agricultural products and livestock and consumption of these products by persons living within an 80-km (50-mi) radius of Pantex. This analysis indicates that impacts of

operating the MOX facility on agricultural products, livestock, and human health at Pantex would likely be minor.

ORD14-4

MOXRFP

DOE acknowledges GE's decision not to participate in the MOX approach.

This is a comment on the hearings for recycling plutonium waste. You know, we're opposed to it out here. Mixing MOX oxide and burning plutonium in commercial (reactors) is very bad. I personally want to see the waste vitrified and not used in commercial reactors. It's a very bad idea. Citizens are really opposed to this and the Department of Energy simply goes on with madness and more madness. Very bad and dangerous idea and I'm a citizen in Portland, Oregon and I don't want it done, period.

1

PD036

PD036-1

Alternatives

DOE acknowledges the commentator's opposition to the MOX approach to surplus plutonium disposition. The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. Converting the surplus plutonium into MOX fuel and using it in domestic, commercial reactors is an effective way to accomplish this. To this end, surplus plutonium would be subject to stringent control, and the MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation would be a once-through cycle with no reprocessing.

DOE has identified as its preferred alternative the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.



United States
Department
of Energy

Comment Form

NAME: (Optional) EVERETT ANTILA
ADDRESS: 345 NE 22 AV
TELEPHONE: (503) 288 8970
E-MAIL: antila@coho.net

U.D.E.

THE decision to eliminate all nuclear weapons
all nuclear power to proceed step by step in this
direction as a governmental policy of U.S.A
IS LONGER OVERDUE.

THE EARTH CAN NO LONGER SUFFER THE
probability OF ANOTHER "CHERNOBYL" IN
FACT THE "EXPLOSION" IN THE UKRAINE FROM
THE SAME NUCLEAR COMPLEX IS AGAIN POSSIBLE
BECAUSE OF THE UNKNOWN combination OF
elements brewing THERE. NATURALLY COAL &
OIL SHOULD BE REPLACED BY ENERGY OF
WIND, THERMAL & OTHER energy sources on which

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ORD17

ORD17-1

Other

Consideration of the elimination of nuclear weapons systems and nuclear generated power in favor of renewable energy sources is beyond the scope of this SPD EIS. The scope of this SPD EIS is focused on analysis of alternatives on whether and how much U.S. surplus plutonium should be used as MOX fuel, which technology should be used for immobilization, where to construct the disposition facilities that are needed, and where to perform lead assembly fabrication and testing. By working in parallel with Russia to reduce stockpiles of excess plutonium, the United States can reduce the chance that weapons-usable nuclear material could fall into the hands of terrorists or rogue states and help ensure that nuclear arms reductions will never be reversed. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.



United States
Department
of Energy

Comment Form

#2

NAME: (Optional) EVERETT ANTILA

ADDRESS: _____

TELEPHONE: (___) _____

E-MAIL: _____

Funds as great as are spent on expensive

Nuclear Energy should transferred to

sustainable energy sources.

1

MOX IS DEFINITELY ADDITIONALLY MORE

COSTLY THAN THE ORIGINAL URANIUM &

SHOULD NEVER NEVER BE CONSIDERED

AS A FUEL.

2

ORD17

ORD17-2

MOX Approach

The MOX facility would produce nuclear fuel that would displace LEU fuel that utilities would have otherwise purchased. If the effective value of the MOX fuel exceeds the cost of the LEU fuel that it displaced, then the contract provides that money would be paid back to the U.S. Government by DCS based on a formula included in the DCS contract. The commercial reactors selected for the MOX approach include only those reactors whose operational life is expected to last beyond the life of the surplus plutonium disposition program.

My name is Gloria Black and my phone number is (503) 629-5495. I would like to urge the support of cleanup of Hanford and also to say that I oppose the MOX and my feeling is that it's too dangerous to transport plutonium in the Northwest. And also we don't need to create new nuclear waste. So I strongly urge the cleanup. Thank you.

1

PD031

PD031-1**Alternatives**

DOE acknowledges the commentor's opposition to the MOX approach, and support of cleanup at Hanford. DOE believes that Hanford's efforts should remain focused on its current high-priority cleanup mission. The importance of cleanup at Hanford was taken into consideration in identifying preferred sites for surplus plutonium disposition activities. However, no decision has been made, and DOE will continue to consider Hanford for surplus plutonium disposition or other programs that are compatible with the Hanford mission.

The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. Converting the surplus plutonium into MOX fuel and using it in domestic, commercial reactors is an effective way to accomplish this. To this end, surplus plutonium would be subject to stringent control, and the MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation would be a once-through cycle with no reprocessing.

Hello, my name is Sylvia Bryant. I'm a United States citizen living in Oregon and I believe the MOX approach to handling plutonium is a bad idea. Thank you for giving me this opportunity to express my opinion. Bye-bye.

1

PD052

PD052-1

Alternatives

DOE acknowledges the commentor's opposition to the MOX approach. The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. Converting the surplus plutonium into MOX fuel and using it in domestic, commercial reactors is an effective way to accomplish this. Consistent with the U.S. policy of discouraging the civilian use of plutonium, a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation would be a once-through cycle with no reprocessing.

My name is Nathan Butts from Portland, Oregon and I'm calling to comment on the disposition of plutonium and the alternatives in the Draft EIS and I am opposed to the hybrid alternatives which, which allow the use of plutonium in nuclear plants for use as nuclear fuel. I'm concerned about the environmental effects of the waste generated from this process. I'm concerned about contamination in the making of the fuel, transportation of the fuel, both here and in Russia. There is no guarantees that they're going to handle it properly both during the process and after. With the nuclear waste will be generated and it's not a step towards non-proliferation. The right steps towards non-proliferation is the encapsulation of the plutonium and the best technology for that as is available now, would be the best alternative. At a later date when we have technology for lowering the threat of the use of this fuel as a, as nuclear weapons, then we can use it at that time. We will have it stored and we will have it monitored both here and in Russia, and we can have this as some type of international agreement between the two countries whereas we can't have an international agreement on waste or at least we don't have as firm of one as we should, since we can't even handle our own. That's the end of my comment. If you'd like to give me a call my number is 644-7760, area code 503 and I speak for my household of two. Thank you.

1

PD044

PD044-1**Alternatives**

DOE acknowledges the commentor's opposition to the MOX approach. The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. Converting the surplus plutonium into MOX fuel and using it in domestic, commercial reactors is an effective way to accomplish this. Consistent with the U.S. policy of discouraging the civilian use of plutonium, a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation would be a once-through cycle with no reprocessing.

Potential waste management impacts of the proposed surplus plutonium disposition facilities are analyzed in this SPD EIS for each candidate site. Detailed analysis is provided in Appendix H. As described in Sections 2.18.3 and 4.28.2.8, additional spent fuel and would be produced by using MOX fuel instead of LEU fuel in domestic, commercial reactors. Spent fuel management at the proposed reactor sites is not expected to change dramatically due to the substitution of MOX assemblies for some of the LEU assemblies. Likewise, the additional spent fuel would be a very small fraction of the total that would be managed at the potential geologic repository. After irradiation, the MOX fuel would be removed from the reactor and managed with the rest of the spent fuel from the reactor, eventually being disposed of at a potential geologic repository built in accordance with the NWPA. Transportation impacts of the MOX approach are summarized in Chapter 4 of Volume I and Appendix L. As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures or vehicle emissions are expected.



United States
Department
of Energy

Comment Form

3/13/78 (X TO ACCOMPANY ORAL COMMENT given at Portland meeting)
 NAME: (Optional) Andrew D Butz (REPRESENTING SELF ONLY)
 ADDRESS: 2026 N. Emerson St, Portland, OR 97217-3819
 TELEPHONE: (503) 286-9999
 E-MAIL: abutze@pcc.edu
 Re: "surplus" PLUTONIUM DISPOSITION (Alternatives II & 12 are only ones that are acceptable)
 URGENT DEMANDS:

- 1) Public health/safety must be given the top priority in all actions
- 2) Thus, all considerations must prioritize immobilization & DEACTIVATION
- 3) GIVEN the level of investment (money, talent) in nuclear proliferation to date, WHY CAN'T all further investment be directed exclusively toward:
 - i) immobilization ?
 - ii) deactivation/neutralization ?
 - iii) demilitarization* ?
 THESE MUST BE THE ONLY OPTIONS PURSUED

STOP MOX! DON'T SUBSIDIZE THE NUCLEAR (WASTE) PRODUCTION INDUSTRY!

Sincerely,
 Andrew D Butz
 Social Science Faculty, Portland Community College

* I am thoroughly unconvinced that demilitarization of weapons grade plutonium can only be done through MOX fission in commercial reactors
 → STOP THE COLD WAR PARADIGM; UNPLUG THE NUCLEAR PRODUCTION CYCLE!

ORD12-1

Human Health Risk

DOE acknowledges the commentor's concern regarding the priority of public health and safety. The Human Health Risk sections presented in Chapter 4 of Volume I discuss the applicable human health risks associated with all alternatives considered. Decisions on the surplus plutonium disposition program will be influenced by these estimated risks.

ORD12-2

Alternatives

DOE acknowledges the commentor's support of disposition alternatives that consider only immobilization. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

DEMAIN INC. INVESTMENT CLUB
 RIAN T. SMITH
 PAGE 1 OF 2

4525 SE 70th
 Portland, OR 97206-4450

August 03, 1998

U.S. Department of Energy (DOE)
 Office of Fissile Materials Disposition
 c/o SPD EIS
 P.O. Box 23786
 Washington, D.C. 20026-3786

To whom it may concern,

I read in The Oregonian that the DOE is asking for public input in regards to the "Surplus Plutonium Disposition Draft Environmental Impact Statement".

In other words, the DOE has too much Plutonium and wants to justify the disposal of it. Well, instead of disposal, why not invest some of the billions of dollars the DOE has to research and develop 'nuclear batteries' for electric cars? Portable computers? Smoke Detectors?

The public already has nuclear pacemakers, so why not expand on that? We used nuclear (Plutonium) batteries to power experiments on the moon. What's stopping the use of such batteries to power portable tape players (walkmans) or other electronic devices?

I would be willing to help fund and be a part of an R+D team if the Department of Energy were to write back and show an interest, however

Page 1 of 2

MD009

MD009-1

Other

DOE acknowledges the commentator's offer of support to fund R&D on alternative uses of surplus plutonium 239. Plutonium batteries, however, are fabricated from plutonium 238. The United States has conducted research and found no current space application for plutonium 239. Because this material, along with Russian plutonium, poses a global proliferation threat, it must be disposed of in a manner that reduces the risk that it can be used by terrorists and rogue nations to build nuclear weapons. The actions proposed in this SPD EIS would implement current U.S. policy on nuclear nonproliferation and disposition of surplus plutonium.

DEMAIN INC. INVESTMENT CLUB
RIAN T. SMITH
PAGE 2 OF 2

Slight, in such an idea as I have stated. Hey, I'm
already versed in Government spending: "Why buy one,
when you can buy two at twice the price."
Thank you for your time.

1

Sincerely,

Rian T. Smith
President/Treasurer
Demail Inc. Investment Club

US DOE needs to hear your voice NOW!

- | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| 1. Should Clean Up be the sole mission at Hanford?
<input checked="" type="radio"/> Yes <input type="radio"/> No | 1 |
| 2. Should the United States Government maintain its longstanding policy against the use of weapons Plutonium to fuel civilian nuclear reactors?
<input checked="" type="radio"/> Yes <input type="radio"/> No | 2 |
| 3. Which alternative would you prefer to see the US Department of Energy pursue:
<u>Immobilization</u> (encasement of plutonium in glass-like tombs)
Or
The MOX plan (burning plutonium to fabricate fuel for use in a civilian nuclear reactor)? | 3 |
| 4. Should Plutonium, to be used for processing and fabrication of MOX fuel, be imported to the Hanford site along the Columbia River?
Yes <input type="radio"/> No <input checked="" type="radio"/> | 4 |
| 5. How concerned are you about the transportation of Plutonium through the Northwest?
Not concerned slightly concerned very concerned <u>completely opposed</u>
B. How concerned are you about the transport through the Northwest of fuel containing weapons Plutonium?
Not concerned Slightly concerned Very concerned <u>Completely opposed</u> | |
| 6. Should commercial nuclear power plants be allowed to run on MOX fuel containing weapons Plutonium?
Yes <input type="radio"/> No <input checked="" type="radio"/>
B. Should they be subsidized with tax dollars to do so?
Yes <input type="radio"/> No <input checked="" type="radio"/> | 5 |
| 7. Should MOX fuel containing weapons Plutonium be used to restart the FFTF reactor at Hanford to produce Tritium for nuclear bombs?
Yes <input type="radio"/> No <input checked="" type="radio"/> | 6 |

Name GREGG DEMARIA
Address 3011 SE DIVISION, PORTLAND 97202
Phone 503-233-7631

Please return this to:
Hanford Action
25-6 NW 23rd Place #406
Portland, OR 97214
(503) 235-2531

MD295

MD295-1

DOE Policy

DOE believes that Hanford's efforts should remain focused on its current high-priority cleanup mission. The importance of cleanup at Hanford was taken into consideration in identifying preferred sites for surplus plutonium disposition activities. However, no decision has been made, and DOE will continue to consider Hanford for surplus plutonium disposition or other programs that are compatible with the Hanford mission.

MD295-2

Nonproliferation

U.S. policy dating back to the Ford Administration has prohibited the commercial, chemical reprocessing and separation of plutonium from spent nuclear fuel. The use of U.S. surplus plutonium in existing domestic, commercial reactors does not involve reprocessing (reprocessing is a chemical separation of uranium, transuranic elements [including plutonium], and fission products from spent reactor fuel and the reuse of the plutonium and uranium to produce new fresh fuel). The proposed use of MOX fuel is consistent with the U.S. nonproliferation policy and would ensure that plutonium which was produced for nuclear weapons and subsequently declared excess to national security needs is never again used for nuclear weapons. Consistent with the U.S. policy of discouraging the civilian use of plutonium, a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program.

MD295-3

Alternatives

DOE has identified as its preferred alternative the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

Under the hybrid approach, approximately 33 t (36 tons) of clean plutonium metal and oxides would be used to fabricate MOX fuel, which would be irradiated in domestic, commercial reactors. The remaining 17 t (19 tons) of surplus, low-purity, nonpit plutonium is not suitable for fabrication into MOX fuel because of the complexity, timing, and cost that would be involved in purifying those plutonium materials. Therefore, fabricating all 50 t (55 tons) of surplus plutonium into MOX fuel is not a reasonable alternative and is not analyzed; however, immobilizing all of the surplus plutonium is analyzed. Given the variability in purity of the surplus plutonium to be dispositioned, some of the plutonium currently considered for MOX fuel fabrication may also need to be immobilized. The incremental impacts that would be associated with a small shift in materials throughput are discussed in Section 4.30.

MD295-4

Transportation

The shipment of nuclear material (e.g., depleted uranium) using commercial carriers would be the subject of detailed transportation plans in which routes and specific processing locations would be discussed. These plans are coordinated with State, tribal, and local officials. The shipment of waste would be in accordance with the decisions reached on the *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste* (DOE/EIS-0200-F, May 1997) and the *WIPP Disposal Phase Final Supplemental EIS* (DOE/EIS-0026-S-2, September 1997). The transportation of special nuclear materials is the subject of detailed planning with DOE's Transportation Safeguards Division. The dates and times that specific transportation routes would be used for special nuclear materials are classified information; however, the number of shipments that would be required, by location, has been included in this SPD EIS. Additional details are provided in *Fissile Materials Disposition Program SST/SGT Transportation Estimation* (SAND98-8244, June 1998), which is available on the MD Web site at <http://www.doe-md.com>.

MD295-5

MOX Approach

Use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose of this

proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. The MOX facility would produce nuclear fuel that would displace LEU fuel that utilities would have otherwise purchased. If the effective value of the MOX fuel exceeds the cost of the LEU fuel that it displaced, then the contract provides that money would be paid back to the U.S. Government by DCS based on a formula included in the DCS contract. The commercial reactors selected for the MOX approach include only those reactors whose operational life is expected to last beyond the life of the surplus plutonium disposition program.

MD295-6**DOE Policy**

As discussed in Section 1.7.4, Appendix D was deleted because none of the proposals to restart FFTF currently consider the use of surplus plutonium as a fuel source. In December 1998, the Secretary of Energy decided that FFTF would not play a role in producing tritium.

Additional Comments:

THE PRESENTATION AT THE MARKET ON AUG 15th given
by the DOE strikes of "DOME-DEAR syndrome". IF we
are mobilized in the NW to DEFER GOV't guidance how
can we with less organized areas who stand to be misled
into disastrous policy which is the long term economic
picture being is with a plutonium based energy era?

7

I am interested in helping. I am trained in Aridol /
sustainable design & have experience in teaching. I am 26
years old
Please call
GREGG DEMARIA 233-7631

MD295

MD295-7

General SPD EIS and NEPA Process

DOE acknowledges the commentor's concern regarding open communication and the opposition to the use of plutonium. DOE agrees that everyone has a stake in how plutonium is dispositioned and therefore provided various means for submitting comments: public hearings, mail, a toll-free telephone and fax line, and the MD Web site. Regardless of how they were submitted, all comments received on the SPD Draft EIS were given equal consideration and responded to. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. Converting the surplus plutonium into MOX fuel and using it in domestic, commercial reactors is an effective way to accomplish this.

The remainder of this comment is addressed in response MD295-2.

DON'T WASTE OREGON CAUCAS
LYNN SIMS
PAGE 1 of 12

August 17, 1998

Sims

Thank you for the opportunity to comment upon the SPD Draft EIS, which is probably the most serious management issue that the world is facing today.

This disposition of plutonium warhead pits is a very profound and technical issue, but in common language I call this project the Great American DOE Arms-Pit Problem--because this dilemma stinks. Nobody in the world knows what to do with plutonium. No one knows how to adequately manage this very toxic and dangerous bomb material.

In light of the fact that the decisionmaking concerning this problem is so serious and has such long lived consequences, I must preface my remarks with the opinion that the Department of Energy has not done a very good job at either educating the general public or involving the public at large in this unprecedented monumental project.

I appreciate the fact that we have been granted a special hearing here in Portland...but the fact remains that the choice to hold interactive scoping meetings ONLY near sites that may be affected was totally inadequate. In reality, the sites that may be affected include not only the sites chosen for specific operations, but all sites along proposed transportation routes, all areas surrounding nuclear power plants that have submitted letters of intent to consider the MOX option, and all sites that may be contaminated by accidental spills, leaks and explosions which may be attendant to these operations!

Besides, holding hearings in only 5 locations, mainly where jobs are affected, brings local economic issues into a place of prominence when these decisions should be primarily based upon scientific evaluation and technical issues along with worldwide health and safety, environmental impact, proliferation and power source implications.

The decisions made today have significantly profound and dangerous implications for the future of the world. We must do a better job than those who chose to produce so much plutonium in the first place. We have created a terrible assault upon the

ORD07

ORD07-1

General SPD EIS and NEPA Process

DOE has initiated a number of activities and events to involve and educate the public about these very important issues. Since the inception of the plutonium disposition program, it has conducted public hearings in excess of the minimum required by NEPA regulations at various locations around the country, not just near the potentially affected DOE sites. DOE is also active in various supplementary public education initiatives: it continues to mail information (e.g., fact sheets) to interested members of the public; MD has established a Web site (<http://www.doe-md.com>) to provide current information to the public; and senior staff members make presentations to local and national civic and social organizations on request.

ORD07-2

General SPD EIS and NEPA Process

Although it was not possible to hold public hearings in all locations potentially affected by surplus plutonium disposition actions, DOE provided various other means for the public to express their concerns and provide comments: mail, a toll-free telephone and fax line, and the MD Web site. All comments, regardless of how they were submitted, were given equal consideration and responded to.

ORD07-3

MOX Approach

DOE acknowledges the commentor's support of surplus plutonium disposition alternatives that consider no action (storage) or immobilization. Continued storage of surplus plutonium, as discussed under the No Action Alternative in Section 2.5, would not satisfy the surplus plutonium disposition program goal. The goal is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. Converting the surplus plutonium into MOX fuel and using it in domestic, commercial reactors is an effective way to accomplish this. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the

world environment and economy that has no apparent satisfactory solution. For these reasons we must choose with utmost care the direction we take. As we examine the situation there are many compelling reasons to eliminate the MOX option and choose vitrification or ceramic immobilization or perhaps storage as *Dominici has recently put forth*, as the only reasonable alternatives for this immediate point in time, until we develop advanced technologies to improve upon our ability to dispose of plutonium.

* We already know that a portion of surplus plutonium is suitable only for vitrification. In an economic sense, if this vitrification track must be followed, it makes little sense to spend comparable, and probably more, monies on a second track which takes longer to accomplish. MOX involves huge taxpayer subsidies to commercial nuclear power plants in order that they be able to compete with non-nuclear power sources. These plants will need repairs and modifications, they will encounter a higher risk of safe operation problems, and they will produce spent fuels which are more difficult to transport and store safely for the long term. Both wet pool and dry cask designs may have to be revisited to accommodate the hotter spent fuels.

The conclusions in the RAND WASTE HEAT IMPLICATIONS OF ALTERNATIVE METHODS FOR DISPOSING SURPLUS WEAPONS PU (DRU-1651-DOE JUNE 1997 states "the increased heat output (of spent MOX produced by burning surplus weapons Pu in existing LWRs) will significantly increase the amount of space that the spent MOX fuel takes up in a geologic repository and therefore will significantly increase the cost to dispose of this material. This increase in heat output is an inevitable consequence of the increased production of Am 241 which results from the use of MOX produced from WPU. This result holds true whether the MOX is burned in a LWR or a BWR." This issue needs to be adequately addressed in both safety and economic aspects.

* MOX fuel has been made on an industrial scale only from reactor grade plutonium NOT from weapons grade plutonium. With WPU There are unresolved fabrication issues such as gallium removal and the attendant wastes.

Dr. Toevs and Dr. Beard from Los Alamos (LANL document LA-UR-96-4764) indicate that Pu pits do not all have the same concentration of gallium and the sintering process parameter would have to be adjusted as the gallium concentration changed

ORD07

world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

ORD07-4

MOX Approach

DOE acknowledges the commentor's concern about the preferred approach of using both immobilization and MOX fuel fabrication to surplus plutonium disposition. As discussed in response ORD07-3, pursuing the hybrid approach provides the United States important insurance against potential disadvantages of implementing either approach by itself.

Use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. The MOX facility would produce nuclear fuel that would displace LEU fuel that utilities would have otherwise purchased. If the effective value of the MOX fuel exceeds the cost of the LEU fuel that it displaced, then the contract provides that money would be paid back to the U.S. Government by DCS based on a formula included in the DCS contract.

Section 4.28 was revised to discuss the environmental impacts of operating the reactors that would use MOX fuel. Commercial reactors in the United States are capable of safely using MOX fuel. Modifications would need to be made to the fuel assemblies that would be placed in the reactor vessel to support the use of MOX fuel, but the dimensions of the assemblies would not change. (Operating procedures, fuel management plans, and other activities would also need to be modified.) DOE has used selection criteria in the procurement process which ensure that the reactors chosen would be capable of safely and successfully completing the surplus plutonium

disposition program. In addition, NRC would evaluate license amendment applications and monitor the operation of the domestic, commercial reactors selected to use MOX fuel. After irradiation is complete, the spent fuel would be stored on the site pending eventual disposal pursuant to the NWPA.

MOX fuel would be handled the same as other fuels with regard to pools and dry casks. MOX fuel assemblies would be the same size and shape as the LEU fuel for the specific reactor. The only difference would be the additional decay heat from the higher actinides, especially americium, in the MOX fuel. Dry casks are designed and certified for a maximum heat load, so the additional decay heat would contribute to the total heat load and not require any redesign. The additional heat load may result in less spent fuel stored per cask. A more likely option is that the MOX fuel would be selectively packaged with cooler LEU fuel to obviate any overall heat output restriction. As a result, DOE does not expect any changes in the cask design, and thus no additional cost.

As described in Sections 2.18.3 and 4.28.2.8, additional spent fuel would be produced by using MOX fuel instead of LEU fuel in domestic, commercial reactors. Spent fuel management at the proposed reactor sites is not expected to change dramatically due to the substitution of MOX assemblies for some of the LEU assemblies. Likewise, the additional spent fuel would be a very small fraction of the total that would be managed at the potential geologic repository. Issues related to a potential geologic repository for HLW and spent nuclear fuel are beyond the scope of this SPD EIS, but are being evaluated in the *Draft Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada* (DOE/EIS-0250D, July 1999). Transportation of HLW or spent fuel would be required for either the immobilization or MOX approach to surplus plutonium disposition. Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle*

Costs and Cost-Related Comment Resolution Document (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

The RAND study cited by the commentor analyzed a NWPA repository design that is very different from the reference repository design being analyzed by DOE. Moreover, the information in the study does not pertain directly to the disposition of surplus plutonium, and thus, was not used in the preparation of this SPD EIS.

Section 4.28 discusses the potential environmental impacts of operating the Catawba, McGuire, and North Anna nuclear stations, the reactors that would use the MOX fuel, should the decision be made to proceed with the hybrid approach. Operation of the proposed surplus plutonium disposition facilities is expected to take approximately the same amount of time for either approach. The difference in timing for the hybrid approach is associated with the amount of time that MOX fuel would be irradiated in domestic, commercial reactors. However, none of the proposed reactors are expected to operate longer under the hybrid approach than they would if they continued to use LEU fuel.

ORD07-5 Plutonium Polishing and Aqueous Processing

It is understood that weapons-grade plutonium has not been used to fabricate MOX fuel. At the time DOE issued the SPD Draft EIS, it believed the gallium content in the plutonium dioxide feed specifications for MOX fuel could be reached using the dry, thermal gallium removal method included in the pit conversion process. However, in response to public interest on this topic and to ensure adequate NEPA review in the event that the gallium specification could not be met with the thermal process, an evaluation of the potential environmental impacts of including a small-scale aqueous process (referred to as plutonium polishing) as part of either the pit conversion or MOX facility was presented in Appendix N of the SPD Draft EIS. On the basis of public comments received on the SPD Draft EIS, and the analysis performed as part of the MOX procurement, DOE has included plutonium polishing as a component of the MOX facility to ensure adequate impurity removal from

which is undesirable in an industrial-scale operation. MOX fuel with excessive gallium presents problems because it chemically attacks zirconium. The current technology for gallium removal is an aqueous process which results in the generation of large quantities of liquid radioactive wastes. A dry process is yet to be developed and would lengthen the MOX program. No problems involving gallium that would affect Pu vitrification have been identified, nor are they anticipated.

There are also unresolved safety issues when using WPU including:

1. *the increase of structural stresses on power plants due to the higher temperatures of WPU MOX fuels*
2. *the stability of operation due to the lessening of delayed neutrons and*
3. *increased risks of the severity of accidents involving plutonium*

**The introduction of these safety problems demand plant modification. The change in delayed neutrons will necessitate the addition of more control rods and the addition of boron to coolant water in order to help restore adequate control. More stresses upon the structural integrity of the plant will appear because of the higher temperatures involved with MOX fuel, and that problem must be seriously addressed as many of our plants are aging and already have steam tube cracking and containment embrittlement problems. The risk of catastrophic accidents should not be increased at any power plants and neither should the consequences of accidents be increased. Therefore it should be absolutely a requirement the NRC must relicense any plant considering MOX and a new criteria should be developed with opportunity should public comment on these vital issues. This of course would have to apply to Russian plants also, since radiation knows no boundary.*

**The U.S. plants which have expressed interest in MOX want compensation far in excess of direct costs. Jack Bailey, vice president of Palo Verde, a leading candidate for MOX use stated in March 1996 "We also stress in our letters to DOE that any initiative should address potential benefits to ratepayers and shareholders...The benefits must be substantial. If not, the entire proposition is a non-starter. What I mean specifically is that any agreement involving Palo Verde would require more than*

ORD07

the plutonium dioxide. Appendix N was deleted from the SPD Final EIS, and the impacts discussed therein were added to the impacts sections presented for the MOX facility in Chapter 4 of Volume I. Section 2.18.3 was also revised to include the impacts associated with plutonium polishing. While this additional step is expected to add to the estimated waste streams, the projected increases would be relatively small.

ORD07-6

NRC Licensing

The commentor expresses concerns that MOX fuel will result in a lower delayed neutron fraction, an increase of structural stresses due to higher MOX fuel temperatures and increased accident risks. These parameters require that the nuclear core designers accommodate these differences using verified and validated codes that incorporate these effects. Such nuclear codes have been used successfully in Europe and will be adopted and utilized by fuel designers in the United States. A reactor operating license amendment will be required for each individual reactor before it can use MOX fuel. The regulatory process will be the same as for other operating license amendment requests. The reactor licensee will initiate the process by submitting an amendment request in accordance with 10 CFR 50.90. Safety and environmental analyses, as required by NRC regulations, are submitted to NRC in support of, and as part of, the amendment request. The communities near the reactors proposed for irradiation of MOX fuel and all other interested parties will likely have the opportunity to submit comments during the NRC reactor license amendment process should the MOX approach be selected.

The licensing of Russian plants that may use MOX fuel is beyond the scope of this EIS. The remainder of this comment is addressed in response ORD07-4.

ORD07-7

MOX Approach

Because cost issues are beyond the scope of this SPD EIS, this comment has been forwarded to the cost analysis team for consideration. The *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998) report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document*

the incremental costs associated with using MOX fuel instead of uranium. That kind of payment would be insufficient." (Third International Policy Forum: Deploying the Reactor/MOX Option for Plutonium Disposition Within the Current System of U.S. and Canadian Nuclear Reactors--Regulatory, Policy Impediments. Lansdown, VA March 21, 1996)

The MOX option involves huge taxpayer subsidies to plants for modifications, upgrades & repairs & beyond that, payment to keep competitive profits. It is the greatest corporate welfare scam ever perpetrated upon the people in the history of mankind. The only MOX benefit is profits to the nuclear industry at the expense of the environment, materials handlers and the population of the world.

*What are the changes in the Price Anderson Act to address the increased operational and safety risks? The true cost of MOX would be astronomical.

** In the context of human values, choosing the MOX option leads the world in the wrong direction for future energy generation, which should be focused on safer, less polluting sources. The MOX alternative is loaded with the creation of long lived hazardous materials from fuel fabrication to the spent fuel produced. At this time we are not able to cope satisfactorily with the amounts of chemical and radioactive wastes and spent fuel which has*

already been generated both in the military production and commercial sectors and it is irresponsible to add to this waste burden.

*Transport and onsite storage of fresh MOX fuel is a proliferation risk because it is very vulnerable to theft. At the present time there are no Russian agreements for IAEA security.

*Fresh MOX fuels also incur higher expenditures because the shipments of these fuels demand military escort wherever they are and may require separate fresh fuel storage facilities since MOX fuel would emit higher gamma and neutron radiation.

*There are more possibilities of proliferation risks with the MOX option because the accounting system for tracking amounts of plutonium along the MOX program leaves room for error. Even if no plutonium were diverted from the program, The Joint US/Russian

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(DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

The remainder of this comment is addressed in response ORD07-4.

ORD07-8

NRC Licensing

To ensure reactor safety, NRC would evaluate license applications and monitor operations of the MOX fuel fabrication facility, as well as the domestic, commercial reactors selected to use MOX fuel. No change to the Price Anderson Amendment Act has been considered and none would be necessary.

ORD07-9

MOX Approach

The purpose of the surplus plutonium disposition program is not to provide future energy generation but to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. Converting the surplus plutonium into MOX fuel and using it in domestic, commercial reactors is an effective way to accomplish this. Consistent with the U.S. policy of discouraging the civilian use of plutonium, a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program.

Potential waste management impacts of MOX fuel fabrication alternatives are summarized in Chapter 4 of Volume I and discussed in detail in Appendix H.

The remainder of this comment is addressed in ORD07-4.

ORD07-10

Nonproliferation

DOE acknowledges the commentor's concerns regarding transportation and MOX fuel storage. In order to address security against terrorist-related

incidents, all intersite shipments of plutonium for the surplus plutonium disposition program would be made using DOE's SST/SGT system. This involves having couriers that are armed Federal officers, an armored tractor to protect the crew from attack, and specially designed escort vehicles containing advanced communications and additional couriers. Further, the three DOE disposition facilities proposed in this SPD EIS are all at locations where plutonium would have the levels of protection and control required by applicable DOE safeguards and security directives. Safeguards and security programs would be integrated programs of physical protection, information security, nuclear material control and accountability, and personnel assurance. Security for the proposed facilities would be commensurate with the usability of the material in a nuclear weapon or improvised nuclear device. Physical barriers; access control systems; detection and alarm systems; procedures, including the two-person rule (which requires at least two people to be present when working with special nuclear materials in the facility); and personnel security measures, including security clearance investigations and access authorization levels, would be used to ensure that special nuclear materials stored and processed inside are adequately protected. Closed-circuit television, intrusion detection, motion detection, and other automated materials monitoring methods would be employed. Furthermore, the physical protection, safeguards, and security for the MOX facility and domestic, commercial reactors would be in compliance with NRC regulations.

The implementation process for international inspection of U.S. and Russian surplus plutonium is not fully defined. That process is part of ongoing sensitive negotiations being conducted to reach a bilateral plutonium disposition agreement between the United States and Russia in accordance with the Joint Statement of Principle, which was signed by Presidents Clinton and Yeltsin in September 1998.

ORD07-11**Transportation**

Transportation of surplus plutonium until it reaches its final disposition form would use DOE's SST/SGT system regardless of the approach taken. This system does not use a military escort, rather the SST/SGT system uses armed Federal officers. The cost of transportation to implement the surplus plutonium disposition program, regardless of the approach, is dependent on the number

of trips and the length of the various transportation segments. Table L-3 shows the number of trips and the distance traveled for each alternative. Some of the hybrid alternatives would require less transportation than some of the immobilization-only alternatives. However, the risks from transportation for all of the alternatives would likely be minor.

The MOX fuel would be managed essentially the same way as fresh LEU fuel. However, there would be tighter security and potentially higher costs. The plutonium would be received at the reactor site shortly before it would be inserted into the reactor. Any actual restrictions or requirements related to the storage of fresh MOX fuel would be imposed by NRC as part of the reactor operating license amendment.

ORD07-12

MOX Approach

If U.S. surplus plutonium is dispositioned as MOX fuel in the United States, it would be done with the stipulation that the material could only be used once and not reprocessed. U.S. policy dating back to the Ford Administration has prohibited the commercial, chemical reprocessing and separation of plutonium from spent nuclear fuel. The use of U.S. surplus plutonium in existing domestic, commercial reactors does not involve reprocessing (reprocessing is a chemical separation of uranium, transuranic elements [including plutonium], and fission products from spent reactor fuel and the reuse of the plutonium and uranium to produce new fresh fuel). There is no intention to change this policy to allow reprocessing at any time in the future.

The remainder of this comment is addressed in response ORD07-10.

Plutonium Disposition Study states "...Russia will ultimately recycle any plutonium left in the [MOX spent] fuel." And, "the U.S. objective of plutonium disposition" appears to be satisfied if MOX spent fuel "is stored for several decades before reprocessing." (Joint US/Russian Plutonium Disposition Study, September 1996, p. ExSum-2.) Therefore, if we choose the MOX option, the United State will be supporting the infrastructure for a plutonium economy in Russia and indeed perhaps promoting eventual reprocessing in the United States. This is a dangerous and intolerable outcome.

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FOR ALL THE ABOVE REASONS THE DOE SHOULD DISCONTINUE THE MOX APPROACH FOR SURPLUS PLUTONIUM DISPOSITION.

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*As far as the political maneuvers are concerned (noticing that Russia views Pu as an asset while the general view in the USA ranges from Special Nuclear Material to Economic and Environmental Liability) that just because Russia seems determined to jump over the edge of the cliff it does not mean that we must follow!! Instead we should remember that the United States in reality has the ultimate persuasion because we have more money and will be aiding Russia with its plutonium disposition. Russia has not seriously considered using MOX in LWRs until now.

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Russian operating VVER-1000 reactors would not be able to consume 50 metric tons of surplus plutonium within the timeline of 20 to 40 years set by the joint panels. In order to have that happen, 3 partially built reactors would have to be finished, or reactors in Ukraine would have to be loaded with MOX or reactors would have to operate beyond their lifetimes which would increase safety risks. The MOX option in Russia is further complicated by the crumbling economy and the temptation of the black market. Instead we should offer subsidies to build pilot vitrification plants.

*The MOX option is completely unacceptable, but the vitrification process is also not without risk. Converting plutonium pits for glassification also involves health and safety risks and the creation of sidestream wastes.

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ORD07-13**MOX Approach**

This comment is addressed in response ORD07-3.

ORD07-14**Nonproliferation**

Close cooperation between the two countries is required to ensure that nuclear arms reductions cannot be easily reversed. Understanding the economic dilemma in Russia, the U.S. Congress has appropriated funding for a series of small-scale tests and demonstrations of plutonium disposition technologies jointly conducted by the United States and Russia. In fiscal year 1999 (starting October 1998), Congress further appropriated funding to assist Russia in design and construction of a plutonium conversion facility and a MOX fuel fabrication facility. This funding would not be expended until the presidents of both countries signed a new agreement. Although the amount appropriated by Congress is not sufficient to fund the entire Russian surplus plutonium disposition program, the United States is working with Russia and other nations to resolve this issue.

ORD07-15**Alternatives**

DOE acknowledges the commentor's concerns regarding health and safety risks associated with proposed surplus plutonium disposition facilities. All facilities for surplus plutonium disposition would be constructed and operated to meet applicable health and safety standards and some facilities may be subject to international inspection. DOE takes into consideration pollution reduction techniques to minimize environmental releases when designing, constructing, and operating its facilities. Analysis in this SPD EIS indicates that impacts to health, safety, and waste management from routine operation of the pit conversion, immobilization, and MOX facilities would likely be minor.

DOE has evaluated alternatives for immobilizing all of the surplus plutonium, however, DOE has identified as its preferred alternative the hybrid approach. As shown in the cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), it is expected that the hybrid approach, which includes both immobilization and MOX fuel, would be more expensive than the immobilization-only approach. However, pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential

DON'T WASTE OREGON CAUCAS

LYNN SIMS

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*If we are concerned for a swift resolution to the proliferation risk posed by plutonium, then vitrification is the better alternative because it can be accomplished in less time than the MOX option, is less expensive and has fewer facilities to manage and safeguard.

Any facilities used should be in strict compliance with the most stringent safety regulations and be under constant inspection. When sidestream wastes are generated it must be guaranteed to be isolated from the environment. Transport of hazardous materials must be kept at a minimum.

The people of Oregon do not want more contamination at Hanford. We have had to implore the DOE for a comprehensive assessment of Hanford waste upon the Columbia River. We have not received enough money for adequate monitoring let alone good containment or aggressive clean up. We will not tolerate MOX operations on any level at Hanford. Too many risks are involved. **NOR WILL WE TOLERATE MOX ANYWHERE.**

Contrary to the slogan advertisement of Hanford as a site of Environmental Excellence, we have seen as recently as the 5/14/97 explosion in the Plutonium Reclamation Facility that the management is inadequate. Even an ordinary chemical accident happened because of improper monitoring. Compounding the implications of such mismanagement is the fact that the official DOE NEWS release of May 28 stated "The team has verified that no radioactive materials were involved in the accident..." The admission of the presence of plutonium was not admitted until July. This implies that either management did not know what was happening or that issues vital to public safety were deliberately covered up. We will never be assured that the personnel at Hanford, or any workers anywhere for that matter, will be able to satisfactorily manage the MOX program. Hanford is not the site to handle any portion of the MOX program, we have enough problems on our hands

Why are we even considering the MOX option? It is more dangerous, more risky, more expensive, more problematic, involves more transport of fissile materials, opens more opportunities to terrorists and black market dealers and leaves us with spent fuels that are difficult and expensive to store for the long term. RUSSIA HAS STATED THAT THEY WOULD WANT TO REPROCESS, WHICH PROMOTES A PLUTONIUM ECONOMY AND

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disadvantages of implementing either approach by itself. It also gives the United States more leverage in negotiations with Russia as discussed in response ORD07-3. Operation of the proposed facilities is expected to take approximately the same amount of time for either the immobilization-only approach or the hybrid approach. The difference in timing for the hybrid approach is associated with the amount of time that MOX fuel would be irradiated in domestic, commercial reactors.

While DOE prefers to minimize the transportation of plutonium, it is routinely and safely transported in the United States. As described in Appendix L.3.3, transportation of nuclear materials would be performed in accordance with all applicable DOT and NRC transportation requirements. Interstate highways would be used, and population centers avoided, to the extent possible.

All shipments of surplus plutonium that had not been converted to a proliferation-resistant form would use DOE's SST/SGT system. The transportation of special nuclear materials is the subject of detailed planning with DOE's Transportation Safeguards Division. The dates and times that specific transportation routes would be used for special nuclear materials are classified information; however, the number of shipments that would be required, by location, has been included in this SPD EIS. Additional details are provided in *Fissile Materials Disposition Program SST/SGT Transportation Estimation* (SAND98-8244, June 1998), which is available on the MD Web site at <http://www.doe-md.com>.

ORD07-16

DOE Policy

DOE believes that Hanford's efforts should remain focused on its current high-priority cleanup mission. The importance of cleanup at Hanford was taken into consideration in identifying preferred sites for surplus plutonium disposition activities; however, no decision has been made, and DOE will continue to consider Hanford for surplus plutonium disposition or other programs that are compatible with the Hanford mission.

The News Release of May 28 correctly stated that the explosion did not involve radioactive materials. It reported: "The team has verified that no radioactive materials were involved in the accident that blew the steel lid off

the storage tank, rupturing the overhead fire protection water line.” This was reiterated in the eighth paragraph, which stated: “No evidence of radioactivity release during the accident has been found.” This statement was correct and the Summary Report of the Accident Investigation Board (July 26, 1997) confirmed in the last sentence of the third paragraph that no radioactive materials were involved in the explosion. It states: “Results of extensive sampling, contamination surveys, and stack monitoring data, show that nondetectable airborne radioactivity was released from the facility.” The May 28 News Release did acknowledge the potential presence of plutonium as part of the after-effects of the explosion. It stated in the last paragraph that: “analysis of water collected inside the building showed no chemical contamination. It contained radioactive contamination slightly above-background levels, which is believed to have come from a prior incident resulting from previous operations in the building.” The investigators were sure that this was not directly from the explosion. However, efforts did continue throughout the investigation to determine if the contamination had been carried from some other part of the building by the water that flowed from a cut in a small fire-suppression water line. However, this survey was complicated due to the preexisting spots of contamination in the same areas. This included contamination surveys where water had flowed out building doors. The result of this was a conservative position that the very small amount of contamination found outside, which was barely above-background counts, “was likely” carried out by the water. This was reported in the accident summary report as, “Water from the cut water line flooded the building, and some of it flowed out through various facility exit doors. Extensive surveys conducted inside and outside the building revealed radioactive contamination on the first floor of the facility, and a small area of slightly above-background levels of radioactive contamination outside, that was isolated and immobilized. The contamination found outside was likely the result of water flowing across walls and floors of contaminated areas of the facility, carrying radioactive material outside the building.” Following the May 1997 explosion at Hanford, a review of the emergency management response indicated that multiple programs and systems failed in the hours following the accident. In a letter to Secretarial Offices, Secretary of Energy Federico Peña identified action to be taken at all DOE sites to implement lessons learned as discussed in Section 3.2.4.5 of this SPD EIS. It is DOE’s

INCREASES HANDLING AND PROLIFERATION RISKS. RUSSIA
ALSO WANTS THE WEST TO FINANCE THE OPERATIONS AND
OFFER MONETARY INCENTIVES...MORE REASONS TO NIX MOX.

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*The state of the world plutonium problem is so severe
that it will be a miracle if we accomplish the
disposition task. IT MAKES MOST SENSE TO CHOSE
STORAGE WHILE DEVELOPING IMMOBILIZATION TECHNIQUES AND
FINANCING ONLY THOSE OPTIONS WHICH DO NOT PROMOTE A
PLUTONIUM ECONOMY.*

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Respectfully submitted,

Lynn Sims



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ORD07

policy to place public safety above other program goals. DOE is committed to public and worker safety during the construction, operation, and deactivation of the proposed surplus plutonium disposition facilities, and would implement appropriate controls and procedures to ensure compliance with all applicable Federal, State, and local laws, rules, regulations, and requirements.

ORD07-17

MOX Approach

This comment is addressed in responses ORD07-3, ORD07-12, and ORD07-14.

ORD07-18

MOX Approach

This comment is addressed in response ORD07-3.

DON'T WASTE OREGON CAUCAS
LYNN SIMS
PAGE 1 OF 2

AUGUST 18, 1998

Sims page 1

**SURPLUS PLUTONIUM DISPOSITION DRAFT ENVIRONMENTAL IMPACT
 STATEMENT PUBLIC COMMENT**

Thank you for holding a hearing regarding Plutonium Disposition in Portland. Even more hearings must be held on this important national and international policy making environmental impact statement. Plutonium policy must be democratized, not just made still in semi-secret, mainly holding hearings only in areas in the vicinities of involving those who are directly impacted by plutonium related jobs programs.

1

I take issue with the basic DOE statement that "this draft SPDEIS identifies reasonable alternatives for plutonium disposition." The dual track strategy is on the wrong track headed over the cliff to catastrophe. The MOX option promotes more handling, more transport, increased risk of accidents, increased risk of health problems, increased expenses, more problematic spent fuel disposal and more security risks than guarded storage or prompt immobilization. The Department's continued emphasis upon MOX fuels, in light of all we know today, as a reasonable disposition option, seems to reflect a lingering institutional insanity.

2

The Nuclear Control Institute argues that "using MOX fuel for commercial nuclear power plants is simply too expensive and too risky. Stimulating commerce in plutonium is a recipe for disaster. Mox takes too long. MOX costs too much. Tens of billions of dollars will probably be needed to underwrite the Russian nuclear power industry so that it can use MOX fuel. MOX is too dangerous. MOX fuel reduces the stability of reactor cores. MOX increases the severity of certain accidents. MOX undercuts non-proliferation and arms control." (Paul Leventhal, The Case Against Using Military Plutonium as Civilian Fuel, March 12, 1998)

This SPDEIS states that "the purpose of and need for the proposed action is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner." MOX is neither environmentally safe nor timely. Moreover, we have just had a terrible confirmation of the saying that "nuclear power, powers nuclear bombs" when India exploded the "peaceful atom". MOX would not curb proliferation. The more plutonium is handled and transported, the more risk there is of inaccurate accountability and diversion. If our purpose is to reduce the availability of plutonium, then promoting a plutonium economy, MOX fuel and Russian reprocessing is obviously THE WRONG TRACK.

3

In early August 1998 even Senator Domenici had called for a new approach to Plutonium Disposal in face of the astronomical expenses. The ENERGY DAILY explained that Senator Domenici learned from the Russian minister of atomic energy that Russia would pursue its MOX program only if the West paid for the construction of a MOX fuel fabrication plant in Russia... And paid additional compensation to encourage Russia to use the MOX in their reactors. This stupendous military-industrial complex corporate welfare would wreck the world budget.

ORD06

ORD06-1**General SPD EIS and NEPA Process**

DOE held a number of regional hearings in places such as Boston, Chicago, Denver, and San Francisco during the preparation of the Storage and Disposition PEIS. To provide for public comment on the SPD Draft EIS, DOE conducted public hearings near the potentially affected DOE sites, and therefore, with the most directly affected population. To encourage participation and comment by all interested citizens not in the vicinity of those public hearing locations, DOE provided a number of means for submitting comments: mail, a toll-free telephone and fax line, and the MD Web site. All comments submitted, orally and in writing, were considered equally in the preparation of this SPD EIS. DOE does not believe any additional hearings are necessary.

ORD06-2**Alternatives**

DOE acknowledges the commentator's opposition to the MOX approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again. By working in parallel with Russia to reduce stockpiles of excess plutonium, the United States can reduce the chance that weapons-usable nuclear material could fall into the hands of terrorists or rogue states.

Operation of the proposed surplus plutonium disposition facilities is expected to take approximately the same amount of time for either approach. The difference in timing for the hybrid approach is associated with the amount of time that MOX fuel would be irradiated in domestic, commercial reactors. However, none of the proposed reactors are expected to operate longer under the hybrid approach than they would if they continued to use LEU fuel.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs

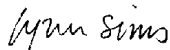
Sims page II

Domenici believes Russian officials would support conversion of plutonium to unclassified shapes and storage under international oversight. This is an idea that makes some kind of common sense for fast track securing of plutonium.

On top of all the economic, health, environmental and proliferation liabilities of the MOX option is the significant fact that no nongovernmental organization, public interest group or environmental organization either here or in Russia wants MOX to happen. In Russia the Center for Nuclear Ecology and Energy Policy of Socio-ecological Union of 200 environmental organizations has a special resolution against MOX fuel. Hundreds of Western groups signed on to a letter calling for an end to all policies and practices that would allow or encourage the use of plutonium as a fuel in nuclear power reactors in March of this year. We the people have the right to determine what future we want regarding the profound subject of plutonium disposition. It is very telling that it is only people who make money from MOX projects support it. This is the kind of damaged reasoning that places greed before responsibility to the people, the environment and future generations.

We don't want MOX operations at Hanford, or Pantex, or INEEL or Savannah River or at any site in Europe or Asia. Nobody in their right mind wants a plutonium economy and we ask you to do the right thing and reconsider going forward with MOX plans and concentrate only upon swift guarded storage and immobilization technologies.

Respectfully submitted,



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ORD06

associated with the various alternatives. A separate report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

Section 4.28 was revised to provide reactor-specific analyses and discuss the potential environmental impacts of using a partial MOX core. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

ORD06-3

DOE Policy

The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. Converting the surplus plutonium into MOX fuel and using it in domestic, commercial reactors is an effective way to accomplish this. Consistent with the U.S. policy of discouraging the civilian use of plutonium, a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program.

DOE's surplus plutonium disposition program is not a profit-making venture. This SPD EIS does not consider the impacts of any of the alternatives on the Russian plutonium disposition program. However, DOE is working diligently to ensure that Russia continues to pursue plutonium disposition with the same vigor as the United States. The United States does not currently plan to implement a unilateral program; however, it will retain the option to begin certain surplus plutonium disposition activities in order to encourage the Russians and set an international example.

Sara Ennis
4546 NE Abneda
Portland, OR 97213

To the Secretary of Energy, 8/11/98
I am outraged by this environmentally and economically unjustifiable pursuit of nuclear energy as proposed by the plan to burn MOX fuel at Hanford or Savannah River, SC.

With the toxic facts in front of you, such as how long MOX requires to cool, problems of storage and transport, hazards of production how can you knowingly put a nuclear threat of such magnitude into anyone's back yard?

FD204

FD204-1

MOX Approach

DOE acknowledges the commentator's opposition to the MOX approach. Neither Hanford nor SRS has been proposed for irradiation of MOX fuel. Both sites, however, have been evaluated as candidate sites for the fabrication of MOX fuel. As indicated in the revised Section 1.6, SRS is preferred for the MOX facility because this activity complements existing missions and takes advantage of existing infrastructure and staff expertise.

DOE conducted a procurement process to acquire MOX fuel fabrication and irradiation services. The selected team, DCS, would design, request a license, construct, operate, and deactivate the MOX facility as well as irradiate the MOX fuel in domestic, commercial reactors. However, these activities are subject to the completion of the NEPA process. Section 4.28 was revised to discuss the potential environmental impacts of operating Catawba, McGuire, and North Anna, the reactors that would use the MOX fuel.

Use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. The MOX facility would produce nuclear fuel that would displace LEU fuel that utilities would have otherwise purchased. If the effective value of the MOX fuel exceeds the cost of the LEU fuel that it displaced, then the contract provides that money would be paid back to the U.S. Government by DCS based on a formula included in the DCS contract.

It would seem that the only economic reason for pursuing the incineration of MOX fuel, would be to boost the nuclear industry. Clearly the foreseeable costs are enormous and the unforeseeable costs, I suspect are beyond speculation.

The project in and of itself is blatantly stupid, but in consideration of the missed opportunity to develop clean, renewable sources of energy, I find the proposal absurd.

I sincerely hope that in the near future you take on a global perspective of health + safety in energy production.
Sincerely, Sara Ennis

FD204

Hello, my name is Joyce Fallingstead and I'm a concerned citizen from Portland, Oregon. I'm calling to say that I would like the MOX fuel, the mixed oxide fuel, to not be used in commercial nuclear reactors. I believe it is dangerous to distribute plutonium to reactors around the country both in regard to the handling involved, as well as the decentralization, as well as the transportation. I believe the immobilization of surplus plutonium through vitrification would be a much safer way of working with our surplus plutonium. I would like very much for the plutonium to not be used as a mixed oxide fuel, and, thank you for taking my comment. Bye-bye.

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PD065

PD065-1

Alternatives

DOE acknowledges the commentor's opposition to the MOX approach. The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. Converting the surplus plutonium into MOX fuel and using it in domestic, commercial reactors is an effective way to accomplish this. Consistent with the U.S. policy of discouraging the civilian use of plutonium, a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation would be a once-through cycle with no reprocessing.

DOE has identified as its preferred alternative the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

Transportation would be required for both the immobilization and MOX approaches to surplus plutonium disposition. Transportation of special nuclear materials, including fresh MOX fuel, would use DOE's SST/SGT system. Since the establishment of the DOE Transportation Safeguards Division in 1975, the SST/SGT system has transported DOE-owned cargo over more than 151 million km (94 million mi) with no accidents causing a fatality or release of radioactive material. The transportation requirements for the surplus plutonium disposition program are also evaluated in this SPD EIS.

Yeah, I would like a copy of the Surplus Plutonium Disposition Draft Environmental Impact Study. My name is Loren Fennell and my PO Box is 4111 Portland, Oregon 97208. Yeah, I would also like to make a comment on this, this disposition that, number 1) I know for a fact that there is, like, thousands of gallons of high and material of highly radioactive waste leaking in, into the watershed of the Columbia River and/or at least heading that way.

1

How many years do we have to wait, you know, before that's cleaned up and any more MOX fuel factories that will make and utilize other waste. I mean it's just, it's kind of crazy. It's not a very safe concept and I don't approve of it and I would just you know, hope that you know, we wake up to the alternatives to energy like wind, solar and bio-mass conversion of our garbage waste for example. So please take this into consideration and I would like a copy as soon as possible. And I thank you very much. Bye.

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PD040

PD040-1

Water Resources

DOE acknowledges the commentor's concern regarding the quality of the Columbia River. Section 3.2.7 provides a description of water resources at Hanford, including their present condition. Section 4.26.1.2 summarizes the potential impacts on surface and groundwater that would result from the proposed surplus plutonium disposition facilities at Hanford. Surface water would not be used in construction or operation nor would there be direct discharges of wastewater from the facilities. Likewise, there would be no direct discharge of wastewater into the groundwater aquifer. All wastewater would be treated prior to discharge in facilities designed to meet NPDES permit limitations. Therefore, no impact on surface or groundwater quality or availability would be expected from the proposed facilities.

PD040-2

Other

DOE acknowledges the commentor's concern with the safety of the MOX approach, and support of alternative energy sources. Use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. The MOX facility would produce nuclear fuel that would displace LEU fuel that utilities would have otherwise purchased. If the effective value of the MOX fuel exceeds the cost of the LEU fuel that it displaced, then the contract provides that money would be paid back to the U.S. Government by DCS based on a formula included in the DCS contract. The commercial reactors selected for the MOX approach include only those reactors whose operational life is expected to last beyond the life of the surplus plutonium disposition program.

The MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to

the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation would be a once-through cycle with no reprocessing.

My name is Bruce Frazier. My address: 2012 South East Hemlock Ave, Portland, Oregon 97214. My telephone number: area code 503 238-8665. I'm calling to request a summary of the environmental impact statement on the draft Surplus Plutonium Disposition Environmental Impact Statement. I know a hearing was had here in Portland recently. I did not able to attend, but I want to get a copy of that and prepare written comments. So if you could send that off. Also, I do want to make the comment that I believe that the only safe disposition of excess and surplus plutonium and waste containing high percentages of plutonium is through vitrification and permanent storage. I do not favor any disposition of excess or surplus plutonium or associated nuclear materials through the use of MOX- mixed oxide fuel- or for burning in any kind of reactor or test facility. That's my immediate comment. But please send me the indicated materials. Thank you very much. Good bye.

1

PD034

PD034-1

Alternatives

DOE acknowledges the commentator's opposition to the MOX approach to surplus plutonium disposition. The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. Converting the surplus plutonium into MOX fuel and using it in domestic, commercial reactors is an effective way to accomplish this. To this end, surplus plutonium would be subject to stringent control, and the MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation would be a once-through cycle with no reprocessing.

DOE has identified as its preferred alternative the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

This is my comment: I am against the MOX and would like the money used towards Hanford cleanup. Thank you.

1

PD039

PD039-1

Alternatives

DOE acknowledges the commentor's opposition to the MOX approach and support of cleanup at Hanford. DOE believes that Hanford's efforts should remain focused on its current high-priority cleanup mission. The importance of cleanup at Hanford was taken into consideration in identifying preferred sites for surplus plutonium disposition activities. However, no decision has been made, and DOE will continue to consider Hanford for surplus plutonium disposition or other programs that are compatible with the Hanford mission. Furthermore, funds for the surplus plutonium disposition program and environmental cleanup program come from different appropriation accounts allocated by the U.S. Congress that cannot be used interchangeably.

Hi there. This is Jessica Hamilton. I am a resident of Portland. My address is 831 Southwest Vista Avenue, Apartment 302, Portland, Oregon 97205 and I'm calling because I want to make sure that Hanford gets cleaned up and that you do not implement MOX. And I do not want to see you guys burn the weapon's plutonium and use it for commercial nuclear reactors. Thank you very much for the opportunity to comment.

1

PD030

PD030-1

Alternatives

DOE acknowledges the commentor's opposition to the MOX approach, and support of cleanup at Hanford. DOE believes that Hanford's efforts should remain focused on its current high-priority cleanup mission. The importance of cleanup at Hanford was taken into consideration in identifying preferred sites for surplus plutonium disposition activities. However, no decision has been made, and DOE will continue to consider Hanford for surplus plutonium disposition or other programs that are compatible with the Hanford mission.

The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. Converting the surplus plutonium into MOX fuel and using it in domestic, commercial reactors is an effective way to accomplish this. To this end, surplus plutonium would be subject to stringent control, and the MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation would be a once-through cycle with no reprocessing.

HANFORD WATCH
PAIGE KNIGHT
PAGE 1 OF 4

TESTIMONY ON THE SURPLUS PLUTONIUM DRAFT EIS
BY PAIGE KNIGHT, PRESIDENT OF HANFORD WATCH
August 18, 1998

Physicians for Social Responsibility had the courage and foresight years ago to designate radiation pollution as a "national public health and safety emergency" - a kind of creeping Chernobyl, spreading insidiously through our land, our food, our water.

Nuclear waste is continuing to accumulate with nowhere to go. Yucca Mountain, the supposed nuclear waste geological repository, in Native Shoshone land in Nevada, is costing millions upon millions of dollars and is proving to be scientifically unsound; it is not the safe dry place hoped for by politicians and the Nuclear Power Industry.

The Waste Isolation Pilot Project in New Mexico has been delayed once again because it does not yet measure up to the environmental standards deemed protective of public health and safety. Illegal dumping and release of wastes continue world wide into our oceans and into the land and into the sources of our groundwater.

Industry and politicians seek solutions that keep the waste problem --out of sight, out of mind-- in hopes of gaining more short-sighted profit and selfish economic advantage over the masses.

They wave, once again, their biblical prophecies and try to lull us into buying their sacrilegious interpretations of "turning swords into plowshares" only to hide from themselves and us that they will be plowing our fields with more toxic radioactive wastes with half-lives longer than the life of the human race thus far. They may bring about the demise not only of humankind but of planet earth because it is a "good business deal".

What has the nuclear endeavor brought us? Even now, with over eight nations calling for nuclear weapons to be declared illegal, the power struggle wages on with India, Pakistan, Israel, and Iran recently declaring themselves, through the testing of nuclear devices, to be nuclear capable and players at the "big table". The preferred option in this Draft EIS refuses to consider the global picture. The "Peaceful Atom" program has brought us to a point in history where the most deadly substance known to humankind (and created by us as well) is considered more powerful than peace, and more valuable than our gold money standard. This bodes ill for future generations.

Here are some of our "dividends" from the "Peaceful Atom":

- We have over 170 tons of commercial nuclear reactor waste world-wide;
- We have approximately 55,000 tons of "excess" military plutonium in the U.S.
- The U.S. taxpayer has paid between \$5.5 and \$6 trillion for nuclear weapons since 1940.
- Nuclear waste is being considered as an international asset rather than the most deadly waste known to humankind, and proliferation of plutonium and uranium abounds.

Dr. James C. Warf, who worked on the first atomic weapons and was the inventor of the PUREX technology, in recent years has stated that "I have come to learn that there are often large proliferation and other environmental impacts from such endeavors a reprocessing, despite the initial paper proposals that promise smooth operations.." We fear more of the same with the stakes becoming even higher in this age of terrorism and lack of moral integrity by the powerful brokers of the nuclear and weapons industry.

The 1988 shutdown of U.S. plutonium production reactors occurred because of several factors:

ORD01

ORD01-1

Repositories

DOE acknowledges the commentor's concerns regarding waste management. Radioactive waste cleanup is a DOE priority, and activities conducted under the surplus plutonium disposition program would be coordinated with other ongoing DOE programs including those associated with waste management, as discussed in Section 1.8.2.

ORD01-2

DOE Policy

DOE acknowledges the commentor's views on the surplus plutonium disposition program. The purpose of this proposed action is to safely and securely disposition the surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors.

ORD01-3

DOE Policy

In September 1993, President Clinton issued the Nonproliferation and Export Control Policy in response to the growing threat of nuclear proliferation. In late July 1998, Vice President Gore and Russian Prime Minister Sergei Kiriyenko signed a 5-year agreement to provide the scientific and technical basis for decisions concerning how surplus plutonium will be managed. This agreement enables the two countries to explore mutually acceptable strategies for safeguarding and dispositioning surplus plutonium. During the first week of September 1998, Presidents Clinton and Yeltsin held a Moscow summit and signed a statement of principles with the intention of removing approximately 50 t (55 tons) of plutonium from each country's stockpile.

The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. Toward that end, this SPD EIS analyzes a nominal 50 t (55 tons) of surplus weapons-usable plutonium. In addition to 38.2 t (42 tons) of weapons-grade plutonium already declared by the President as excess to national security needs, the material analyzed includes weapons-grade

the devastating Chernobyl accident of 1986 which led to the discovery of the DOE's reactors inadequate containment buildings and other essential safety features; citizen's growing knowledge of the serious state of negligence in the nuclear weapons complex; and the reality of the enormous surplus of military plutonium.

3

The government has yet to deal with the environmental legacy left by a half of century of weapons production; cleanup is not being adequately dealt with leaving future generations contaminated water resources growing health and safety threats; the wastes that do exist have no safe storage place nor safe containment at this point in time and yet the proposed MOX alternative would add about three million gallons of highly radioactive liquid waste to storage tanks that are already fraught with safety problems. We have not found the will or way to stop the spread of nuclear arms and yet the terrorist acts in our own country and around the world continue to multiply. The plutonium in spent fuel is least likely to be stolen or diverted for violent purposes precisely because it has *not* been extracted through reprocessing.

4

The USDOE is contending that the options are equal in cost; this soft fact does not mesh with the National Academy of Sciences review of the options a few years ago. Their report concluded that the "MOX" option was by far the most expensive option. There has never been a nuclear reactor to my knowledge that has not run far over cost and presented unacceptable safety problems; one of the major safety problems identified by researchers is a greater risk of loss of control during reactor operation. As I have stated before, major concerns of public health and safety and proliferation of nuclear materials have not been adequately addressed. We join with the Hanford community is calling for a new draft EIS, but because all options and all impacts are not fully addressed. We also agree that politics has influenced the options presented to us in the EIS, rather than sound science that should far outweigh even the economics of these proposals. If these decisions are based solely on politics and economics the DOE is once again showing the public that we are expendable—health of the race and the planet means nothing to them.

5

6

I conclude with the following recommendations:

- Place all weapons-usable material that are extracted from leftover materials under international monitoring and safeguards.
- Fully fund improvements of underwater storage of corroding spent fuel, then to interim dry storage.
- Stop all actions and policies that encourage and subsidize the American Nuclear Industry and Russian plans to build a plutonium economy.
- Avoid a plutonium fuel cycle and economy for electrical generation anywhere in the world.
- Base decisions on a rational approach of analyzing truly long-term consequences nationally and globally.
- Limit all current reprocessing that is taking place at Savannah River Site to the legacies of our production years.
- Limit the transport of nuclear materials from one place or country to another.

7

Let me close with some pertinent quotes from Senator Mark Hatfield who has long seen through the nuclear myths perpetrated on the public by the spin masters of the Nuclear Industry:

8

ORD01

plutonium that may be declared surplus in the future, as well as weapons-usable, reactor-grade plutonium that is surplus to the programmatic and national defense needs of DOE.

Although the Chernobyl accident of 1986 led to further reviews of DOE's production reactors, it did not lead to the discovery of the inadequacy of containment structures nor the decision to shut down these reactors in 1988.

ORD01-4

DOE Policy

DOE acknowledges the commentor's concerns regarding wastes associated with the MOX approach. Analyses presented in Appendix H indicate that no HLW would be generated by the MOX facility and that all other waste types would be treated, stored, and disposed of in accordance with current site practices and procedures, WM PEIS RODs, WIPP ROD, and applicable agreements. Analyses presented in Section 4.28 indicate that the use of MOX fuel in domestic, commercial reactors would not appreciably change the characteristics or quantities of waste generated at the proposed reactor sites. The resulting spent nuclear fuel from these commercial reactors would continue to be managed in accordance with current practice and in a manner required by applicable regulations.

Further, a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation would be a once-through cycle with no reprocessing.

ORD01-5

Cost

DOE acknowledges the commentor's concern regarding the cost of the MOX approach. Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition*

MARK O. HATFIELD

January 14, 1998

Ms. Paige Knight
 Hanford Watch
 2285 SE Cypress
 Portland, OR 97214

Dear Ms. Knight:

Thank you for your invitation to participate in today's Department of Energy hearing on altering the 1989 Hanford Tri-Party Agreement and restarting the Fast Flux Test Facility (FFTF) for the purpose of producing tritium for nuclear weapons. I regret that previous commitments prevent me from attending this critical event.

The persistence by some to exhume nuclear weapons production activities at Hanford never ceases to amaze me. It is shameful enough that the region has not taken steps to close its only operating commercial nuclear reactor, the WNP-2 plant at Hanford, even though an excellent case can be made against it now on purely economic grounds. This abdication of responsibility pales in comparison, however, to the insidious proposal to restart the aging FFTF research reactor for the purpose of producing tritium, a radioactive substance that enhances the destructive capability of nuclear weapons.

It is disappointing that this issue is even being seriously discussed here, a region of the country that has learned the hard way that the price of nuclear technology is much higher than the experts and proponents of nuclear power are ever honest enough to acknowledge. For example, the WPPSS nuclear debacle was one of the greatest economic disasters of the century, and continues to cost the region's electricity customers over \$500 million a year. The Department of Energy was forced to stop lying to the public and close the N Reactor at Hanford in 1988 when it was revealed that hundreds of millions of taxpayer dollars were being wasted producing a product (plutonium) for which there was no critical need. The clean up of the Hanford Reservation will cost hundreds of billions of dollars, take decades to accomplish, and continue to threaten human health and safety. The Trojan nuclear power plant in Oregon was closed because it was uneconomic, and still awaits decommissioning.

Considering all this, how could any rational person or bureaucracy consider adding to the nuclear misery already visited upon the Pacific Northwest? How many lessons do we have to learn before we turn away from the broken promises of nuclear myths? Hanford already is the

ORD01

(DOE/MD-0009, July 1998), which analyzes the cost and schedule estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

Section 4.28 was revised to discuss the potential environmental impacts of operating Catawba, McGuire, and North Anna, the reactors that would use the MOX fuel.

ORD01-6

General SPD EIS and NEPA Process

This SPD EIS presents the potential impacts on public health and safety of each of the alternatives considered in the document. The text reflects DOE's efforts to carefully collect comparable data on all of the alternatives, analyze those data in a consistent manner using well-recognized and accepted procedures, and present the results in a full and open manner. The range of reasonable alternatives was established using the screening criteria listed in Section 2.3.1 and public input. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

ORD01-7

DOE Policy

International inspections would take place throughout the surplus plutonium disposition process, starting at the end stages of the pit disassembly and conversion process. Section 2.4 discusses the sensitive negotiations taking place between the United States and Russia to implement international inspections. Spent fuel storage would take place at the commercial reactors that use the MOX fuel. Spent fuel onsite at the reactors has been and continues to be safely stored. These reactors are regulated by NRC.

Use of MOX fuel in commercial reactors is not proposed in order to subsidize the commercial nuclear power industry or produce electricity. As discussed in response ORD01-2, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard.

Ms. Paige Knight
January 14, 1998
Page 2

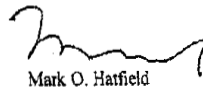
greatest environmental threat to the people of the Pacific Northwest. Restarting any nuclear reactor for weapons production purposes is misguided at best, and transparently evil, at worst. It also is a clear violation of the spirit and intent of the Tri-Party Agreement and a complete reversal of our focused mission over the last 20 years to clean up the largest environmental disaster area in the Nation.

Long ago the Northwest made decisions that turned us away from nuclear production of weapons material and electricity. It is time again to reject the sermons of the nuclear proselytizers and say no to those who preach death, destruction and ruin to our world and the region.

I commend you for your continued commitment to protecting the people and the environment of the Pacific Northwest. Do not hesitate to let me know if I can be of further service to your endeavors.

With kind regards.

Sincerely,



Mark O. Hatfield

ORD01

The MOX facility would produce nuclear fuel that would displace LEU fuel that utilities would have otherwise purchased. If the effective value of the MOX fuel exceeds the cost of the LEU fuel that it displaced, then the contract provides that money would be paid back to the U.S. Government by DCS based on a formula included in the DCS contract.

U.S. policy dating back to the Ford Administration has prohibited the commercial, chemical reprocessing and separation of plutonium from spent nuclear fuel. The use of U.S. surplus plutonium in existing commercial reactors does not involve reprocessing (reprocessing is a chemical separation of uranium, transuranic elements [including plutonium], and fission products from spent reactor fuel and the reuse of the plutonium and uranium to produce new fresh fuel). The proposed use of MOX fuel is consistent with the U.S. nonproliferation policy and would ensure that plutonium which was produced for nuclear weapons and subsequently declared excess to national security needs is never again used for nuclear weapons. Furthermore, the MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program.

Transportation of special nuclear materials would use DOE's SST/SGT system. Since the establishment of the DOE Transportation Safeguards Division in 1975, the SST/SGT system has transported DOE-owned cargo over more than 151 million km (94 million mi) with no accidents causing a fatality or release of radioactive material. As discussed in Section 2.3.1, minimizing transportation was a consideration in developing the alternatives.

The proposed action does consider national and global long-term consequences of removing 50 t (55 tons) of plutonium considered surplus from both U.S. and Russian stockpiles. Decisions on the U.S. surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

ORD01-8

DOE Policy

DOE acknowledges the commentor's quotes from Senator Mark Hatfield.

The U.S. Department of Energy needs to hear your voice NOW!
What do you think about a new era of nuclear proliferation?

Hanford Action of Oregon will forward this questionnaire to USDOE. Please circle your responses.

<p>1. Should clean-up be the sole mission at Hanford? <input checked="" type="radio"/> Yes <input type="radio"/> No</p>	1
<p>2. Should the United States government maintain its longstanding policy opposing the use of weapons plutonium to fuel civilian nuclear reactors? <input checked="" type="radio"/> Yes <input type="radio"/> No</p>	2
<p>3. Should commercial nuclear reactors be allowed to run on MOX fuel containing weapons-grade plutonium? <input type="radio"/> Yes <input checked="" type="radio"/> No</p>	3
<p>3a. Should they be subsidized with tax dollars to do so? <input type="radio"/> Yes <input checked="" type="radio"/> No</p>	4
<p>4. Which alternative would you prefer to see the U.S. Department of Energy pursue: <u>Immobilization (encasement of plutonium in glass logs or in canisters for entombment)</u> OR The MOX plan (processing plutonium into fuel for use in civilian nuclear reactors).</p>	4
<p>5. How concerned are you about the transportation of plutonium through the Northwest to Hanford? Not concerned Slightly Concerned Very Concerned <input checked="" type="radio"/> Completely opposed</p>	5
<p>6. How concerned are you about transporting plutonium MOX fuel through the Northwest to Hanford? Not concerned Slightly Concerned Very Concerned <input checked="" type="radio"/> Completely opposed</p>	5
<p>7. Should MOX fuel be used to restart the Fast Flux Test Facility (FFTF), a risky liquid-metal reactor at Hanford, to produce tritium for nuclear bombs? <input type="radio"/> Yes <input checked="" type="radio"/> No</p>	6

Name Gretchen Janzon
Address 2323 NE 57th Ave PDX OR 97213
Phone _____ e-mail _____

Please return to Hanford Action of Oregon by September 10, 1998.

Hanford Action of Oregon
25-6 NW 23rd Pl. #406 tel: (503) 235-2924 fax: (503) 736-0097 e-mail: hannie@aol.com

MD227

MD227-1

DOE Policy

DOE believes that Hanford's efforts should remain focused on its current high-priority cleanup mission. The importance of cleanup at Hanford was taken into consideration in identifying preferred sites for surplus plutonium disposition activities. However, no decision has been made, and DOE will continue to consider Hanford for surplus plutonium disposition or other programs that are compatible with the Hanford mission.

MD227-2

Nonproliferation

U.S. policy dating back to the Ford Administration has prohibited the commercial, chemical reprocessing and separation of plutonium from spent nuclear fuel. The use of U.S. surplus plutonium in existing domestic, commercial reactors does not involve reprocessing (reprocessing is a chemical separation of uranium, transuranic elements [including plutonium], and fission products from spent reactor fuel and the reuse of the plutonium and uranium to produce new fresh fuel). The proposed use of MOX fuel is consistent with the U.S. nonproliferation policy and would ensure that plutonium which was produced for nuclear weapons and subsequently declared excess to national security needs is never again used for nuclear weapons. Consistent with the U.S. policy of discouraging the civilian use of plutonium, a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program.

MD227-3

MOX Approach

Use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. The MOX facility would produce nuclear fuel that would

displace LEU fuel that utilities would have otherwise purchased. If the effective value of the MOX fuel exceeds the cost of the LEU fuel that it displaced, then the contract provides that money would be paid back to the U.S. Government by DCS based on a formula included in the DCS contract. The commercial reactors selected for the MOX approach include only those reactors whose operational life is expected to last beyond the life of the surplus plutonium disposition program.

MD227-4

Alternatives

DOE has identified as its preferred alternative the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

Under the hybrid approach, approximately 33 t (36 tons) of clean plutonium metal and oxides would be used to fabricate MOX fuel, which would be irradiated in domestic, commercial reactors. DOE has determined that 17 t (19 tons) of surplus, low-purity, nonpit plutonium is not suitable for fabrication into MOX fuel because of the complexity, timing, and cost that would be involved in purifying those plutonium materials. Therefore, fabricating all 50 t (55 tons) of surplus plutonium into MOX fuel is not a reasonable alternative and is not analyzed; however, immobilizing all of the surplus plutonium is analyzed. Given the variability in purity of the surplus plutonium to be dispositioned, some of the plutonium currently considered for MOX fuel fabrication may also need to be immobilized. The incremental impacts that would be associated with a small shift in materials throughput are discussed in Section 4.30.

Testing is underway to confirm that the immobilized plutonium would meet the performance criteria for disposal in a potential geologic repository pursuant to the NPWA.

MD227-5**Transportation**

The shipment of nuclear material (e.g., depleted uranium) using commercial carriers would be the subject of detailed transportation plans in which routes and specific processing locations would be discussed. These plans are coordinated with State, tribal, and local officials. The shipment of waste would be in accordance with the decisions reached on the *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste* (DOE/EIS-0200-F, May 1997) and the *WIPP Disposal Phase Final Supplemental EIS* (DOE/EIS-0026-S-2, September 1997). The transportation of special nuclear materials is the subject of detailed planning with DOE's Transportation Safeguards Division. The dates and times that specific transportation routes would be used for special nuclear materials are classified information; however, the number of shipments that would be required, by location, has been included in this SPD EIS. Additional details are provided in *Fissile Materials Disposition Program SST/SGT Transportation Estimation* (SAND98-8244, June 1998), which is available on the MD Web site at <http://www.doe-md.com>.

MD227-6**DOE Policy**

As discussed in Section 1.7.4, Appendix D was deleted because none of the proposals to restart FFTF currently consider the use of surplus plutonium as a fuel source. In December 1998, the Secretary of Energy decided that FFTF would not play a role in producing tritium.

The U.S. Department of Energy needs to hear you voice NOW!
What do you think about a new era of nuclear proliferation?

Hanford Action of Oregon will forward this questionnaire to USDOE. Please circle your responses.

1. Should clean-up be the sole mission at Hanford? *do you mean burying this?*
Yes No 1
2. Should the United States government maintain its longstanding policy opposing the use of weapons plutonium to fuel civilian nuclear reactors? *if this has already been so-*
Yes No 2
3. Should commercial nuclear reactors be allowed to run on MOX fuel containing weapons-grade plutonium? *why do we have so much to dispose of?*
Yes No 3
- 3a. Should they be subsidized with tax dollars to do so? *why are we producing this material.*
Yes No 3
4. Which alternative would you prefer to see the U.S. Department of Energy pursue: *no wonder that Iran does not want to cooperate!*
Immobilization (encasement of plutonium in glass logs or in cannisters for entombment) OR 4
The MOX plan (processing plutonium into fuel for use in civilian nuclear reactors). *But this is ultimately very dangerous.*
5. How concerned are you about the transportation of plutonium through the Northwest to Hanford? *where was it manufactured?*
Not concerned Slightly Concerned Very Concerned Completely opposed 5
6. How concerned are you about transporting plutonium MOX fuel through the Northwest to Hanford? *if it was not too risky to develop - then keep it there.*
Not concerned Slightly Concerned Very Concerned Completely opposed 6
7. Should MOX fuel be used to restart the Fast Flux Test Facility (FFTF), a risky liquid-metal reactor at Hanford, to produce tritium for nuclear bombs?
Yes No 6

Name Rose Mary Joslin
Address 3134 NE 62nd
Phone 503-282-8999 e-mail _____

Please return to Hanford Action of Oregon by September 10, 1998.

Hanford Action of Oregon

25-6 NW 23rd Pl. #406 tel: (503) 235-2924 fax: (503) 736-0097 e-mail: hannie@aol.com

MD299

MD299-1

DOE Policy

DOE believes that Hanford's efforts should remain focused on its current high-priority cleanup mission. The importance of cleanup at Hanford was taken into consideration in identifying preferred sites for surplus plutonium disposition activities. However, no decision has been made, and DOE will continue to consider Hanford for surplus plutonium disposition or other programs that are compatible with the Hanford mission.

MD299-2

Nonproliferation

U.S. policy dating back to the Ford Administration has prohibited the commercial, chemical reprocessing and separation of plutonium from spent nuclear fuel. The use of U.S. surplus plutonium in existing domestic, commercial reactors does not involve reprocessing (reprocessing is a chemical separation of uranium, transuranic elements [including plutonium], and fission products from spent reactor fuel and the reuse of the plutonium and uranium to produce new fresh fuel). The proposed use of MOX fuel is consistent with the U.S. nonproliferation policy and would ensure that plutonium which was produced for nuclear weapons and subsequently declared excess to national security needs is never again used for nuclear weapons. Consistent with the U.S. policy of discouraging the civilian use of plutonium, a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program.

In late July 1998, Vice President Gore and Russian Prime Minister Sergei Kiriyenko signed a 5-year agreement to provide the scientific and technical basis for decisions concerning how surplus plutonium will be managed. This agreement enables the two countries to explore mutually acceptable strategies for safeguarding and dispositioning surplus plutonium. During the first week of September 1998, Presidents Clinton and Yeltsin held a Moscow summit and signed a statement of principles with the intention of removing approximately 50 t (55 tons) of plutonium from each country's stockpile.

MD299-3**MOX Approach**

Use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. The MOX facility would produce nuclear fuel that would displace LEU fuel that utilities would have otherwise purchased. If the effective value of the MOX fuel exceeds the cost of the LEU fuel that it displaced, then the contract provides that money would be paid back to the U.S. Government by DCS based on a formula included in the DCS contract. The commercial reactors selected for the MOX approach include only those reactors whose operational life is expected to last beyond the life of the surplus plutonium disposition program.

MD299-4**Alternatives**

DOE has identified as its preferred alternative the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

Under the hybrid approach, approximately 33 t (36 tons) of clean plutonium metal and oxides would be used to fabricate MOX fuel, which would be irradiated in domestic, commercial reactors. The remaining 17 t (19 tons) of surplus, low-purity, nonpit plutonium is not suitable for fabrication into MOX fuel because of the complexity, timing, and cost that would be involved in purifying those plutonium materials. Therefore, fabricating all 50 t (55 tons) of surplus plutonium into MOX fuel is not a reasonable alternative and is not

analyzed; however, immobilizing all of the surplus plutonium is analyzed. Given the variability in purity of the surplus plutonium to be dispositioned, some of the plutonium currently considered for MOX fuel fabrication may also need to be immobilized. The incremental impacts that would be associated with a small shift in materials throughput are discussed in Section 4.30.

MD299-5

Transportation

The shipment of nuclear material (e.g., depleted uranium) using commercial carriers would be the subject of detailed transportation plans in which routes and specific processing locations would be discussed. These plans are coordinated with State, tribal, and local officials. The shipment of waste would be in accordance with the decisions reached on the *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste* (DOE/EIS-0200-F, May 1997) and the *WIPP Disposal Phase Final Supplemental EIS* (DOE/EIS-0026-S-2, September 1997). The transportation of special nuclear materials is the subject of detailed planning with DOE's Transportation Safeguards Division. The dates and times that specific transportation routes would be used for special nuclear materials are classified information; however, the number of shipments that would be required, by location, has been included in this SPD EIS. Additional details are provided in *Fissile Materials Disposition Program SST/SGT Transportation Estimation* (SAND98-8244, June 1998), which is available on the MD Web site at <http://www.doe-md.com>.

MD299-6

DOE Policy

As discussed in Section 1.7.4, Appendix D was deleted because none of the proposals to restart FFTF currently consider the use of surplus plutonium as a fuel source. In December 1998, the Secretary of Energy decided that FFTF would not play a role in producing tritium.

Kathleen Juergens
 3229 NE 7th Ave.
 Portland, OR 97212

TESTIMONY GIVEN AT USDOE PUBLIC HEARING
 August 18, 1998
 Portland, Oregon

My name is Kathleen Juergens, and I'm a working person who lives in Northeast Portland. I'm here on behalf of myself, and I'm also here in solidarity with all the other people of our region of Cascadia, and all my sisters and brothers throughout the rest of the country.

I am not here to debate the DOE's plan to convert surplus plutonium into so-called "MOX fuel" and burn it in commercial reactors. We all know this is a bad idea. We all know there is not one shred of evidence that the MOX fuel plan will provide us with safe and useable energy, or a sustainable source of jobs, or even with a method of disposing of plutonium! We all know that the MOX plan will leave us with far more hazardous radioactive waste in our communities than we had before. We all know that the MOX plan will cost far more than vitrification, and will pump many more billions of our hard-earned tax money into the nuclear welfare state. We all know that NOBODY stands to benefit from this insane plan except a handful of rich nuclear industrialists. We know all these things, and DOE knows them too.

I am not here to beg and plead and ask nicely: Please stop poisoning the air and the water. Please stop giving us cancer. Please stop creating more lethal radioactive waste. Please stop threatening us with nuclear annihilation. Here in the Northwest, we are way past "please." We have asked nicely, and DOE has not listened.

No, I am here to express my OUTRAGE at the fact that I have to be here at all. At the fact that, after hearing loud and clear, over and over again, from almost everybody in the Northwest, that this nuclear nightmare in our backyard has got to end, the DOE comes back to us yet again, with yet another plan that insults our intelligence and assaults our spirits. I am outraged that anybody ever even THOUGHT about abandoning the cleanup mission at Hanford. If anybody at DOE had ever listened to the people of the Northwest--or cared at all for our health, our livelihoods, our survival--this MOX plan would never have been proposed in the first place. This whole hearing is an outrage.

I am here to DEMAND that the MOX plan be withdrawn. We do not want MOX here at Hanford. We do not want MOX at Savannah River, South Carolina. We do not want MOX anywhere. Vitrification is not a wonderful alternative, but it's the best thing we've come up with so far for temporarily dealing with--not solving--the problem of plutonium disposal. The MOX plan is nothing but an outrage. Withdraw it, and withdraw it NOW!


ORD05-1

Alternatives

DOE acknowledges the commentor's opposition to the MOX approach to surplus plutonium disposition. DOE believes that Hanford's efforts should remain focused on its current high-priority cleanup mission. The importance of cleanup at Hanford was taken into consideration in identifying preferred sites for surplus plutonium disposition activities. However, no decision has been made, and DOE will continue to consider Hanford for surplus plutonium disposition or other programs that are compatible with the Hanford mission.

The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. Converting the surplus plutonium into MOX fuel and using it in domestic, commercial reactors is an effective way to accomplish this. To this end, surplus plutonium would be subject to stringent control, and the MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation would be a once-through cycle with no reprocessing.

DOE has identified as its preferred alternative the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

 **Question/ Information Request Card**

Name: MAURA McLOUGHLIN
Address: PO. Box 22946
PORTLAND OR 97269
Phone: 251-4928 Fax: _____
E-mail: _____
Question/ Request: Re: Surplus Plutonium Report
I would like it edited way down.
I found it extremely repetitive.
Also, it found the tables general toward

For further information contact:
U.S. Department of Energy, Office of Fissile Materials Disposition, MD-4
Forrestal Building, 1000 Independence Ave., SW, Washington, D.C. 20585
1-800-820-5159

Professional rather than the public →

1

ORD15

ORD15-1

General SPD EIS and NEPA Process

DOE has and will continue to work toward the goal of presenting technical information, in writing or verbally, in readily understandable language and avoid the use of jargon (technical slang). Specifically, our aim is to provide information at a high school comprehension level. Because the disposition of surplus plutonium is a technically complex program, we must use some scientific and technical terms in order to accurately describe how DOE proposes to dispose of surplus plutonium, and the environmental effects of taking those actions. For further clarification of the issues addressed in this SPD EIS, duplication of information is eliminated where possible, and various reader aids (e.g., a glossary, a list of acronyms, a metric conversion chart) are incorporated.

Thank you for sending me
the report, I hope in future
for a report geared toward
the public.

Thank you again,

Maura McLoughlin

ORD15



United States
Department
of Energy

Comment Form

NAME: (Optional) Nancy Metrick
ADDRESS: 2031 NW Johnson #3 Portland, OR 97209
TELEPHONE: (503) 226-9480
E-MAIL:

I DO NOT WANT MOX /
PERIOD /

[Signature]

1

ORD13

ORD13-1

MOX Approach

DOE acknowledges the commentor's opposition to the MOX approach. The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. Converting the surplus plutonium into MOX fuel and using it in domestic, commercial reactors is an effective way to accomplish this. To this end, surplus plutonium would be subject to stringent control, and the MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation would be a once-through cycle with no reprocessing. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

Yes, my name is Dr. Martin Donahoe. I'm a physician on faculty at Oregon Health Sciences University, interested in environmental issues and I teach these issues to both our medical students and our internal medicine residents and I wanted to weigh in with my opinion against the MOX, mixed oxide, fuel approach to using plutonium and uranium in reactors. I certainly would favor the other option being immobilization which would be less expensive, safer for the environment and also send a message to Russia and the rest of the world that we think of plutonium more as a, a dangerous waste product that it is rather than a source of energy. My number is (503) 494-6495. Thank you.

1

PD063

PD063-1**Alternatives**

DOE acknowledges the commentator's opposition to the MOX approach to surplus plutonium disposition. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

This SPD EIS identifies and analyzes potential environmental and human health impacts that might result from the construction and normal operation of proposed surplus plutonium disposition facilities. As described in Chapter 4 of Volume I and summarized in Section 2.18, potential impacts of any of the proposed activities would likely be minor. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.



Oregon
John A. Kitzhaber, M.D., Governor

Department of Consumer and Business Services

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September 9, 1998

Mr. Howard R. Canter
Acting Director
Office of Fissile Materials Disposition
US Department of Energy
PO Box 23786
Washington, DC 20026-3786

Re: Oregon Office of Energy's Comments on Surplus Plutonium Disposition Draft Environmental Impact Statement

Dear Mr. Canter,

Thank you for the opportunity to comment on the Surplus Plutonium Disposition Draft Environmental Impact Statement (EIS). The citizens of the State of Oregon are vitally interested in this issue from both a regional and international perspective.

Our most urgent concerns are:

Hanford has been described as the most contaminated site in the Western Hemisphere. A review of table 2-4 in the EIS also shows that in nearly all cases, siting any portion of the surplus plutonium mission at Hanford results in a measurably greater human health risk than conducting the mission at another site. As a result, we recommend that cleanup remain Hanford's only mission and Hanford not be considered for any task related to surplus plutonium disposition. 1

The use of Mixed Oxide (MOX) fuel in the Hanford Fast Flux Test Facility reactor or in any other Department of Energy or commercial reactor to produce tritium for nuclear weapons represents a weapons use of surplus weapons plutonium and must not be considered as an option. This appears to violate the spirit of our agreement with the Russians to remove this plutonium from the weapons cycle. 2

The EIS does not consider the environmental impacts of burning MOX fuel in commercial reactors as part of the MOX option. Until these impacts are analyzed, it is impossible to make a rational choice between the hybrid alternative and the total immobilization alternative. 3

The EIS assumes a geologic repository for immobilized plutonium will be available. The validity of this assumption is highly suspect. The completion of work on Yucca Mountain has been delayed time and time again and there is no reason to anticipate any 4

MD170

MD170-1

Alternatives

DOE believes that Hanford's efforts should remain focused on its current high-priority cleanup mission. The importance of cleanup at Hanford was taken into consideration in identifying preferred sites for surplus plutonium disposition activities. Although there may be differences in human health risk factors between the sites, the differences are not large enough to be a discriminating factor in the decisionmaking process. DOE will continue to consider Hanford for surplus plutonium disposition or other programs that are compatible with the Hanford mission.

MD170-2

DOE Policy

DOE acknowledges the commentor's opposition to using MOX fuel in DOE or commercial reactors to produce tritium for nuclear weapons. As discussed in Section 1.7.4, Appendix D was deleted because none of the proposals to restart FFTF currently consider the use of surplus plutonium as a fuel source. In December 1998, the Secretary of Energy decided that FFTF would not play a role in producing tritium. Furthermore, MOX fuel in domestic, commercial reactors would not be used to produce tritium.

MD170-3

MOX Approach

The SPD Draft EIS used a generic reactor analysis because the specific reactors had not yet been identified. DOE conducted a procurement process to acquire MOX fuel fabrication and irradiation services. As a result of this procurement process, DOE identified the reactors proposed to irradiate MOX fuel as part of the proposed action in this EIS. Section 4.28 discusses the potential environmental impacts of operating the reactors, should the decision be made to proceed with the hybrid approach (i.e., immobilization and MOX fuel fabrication).

MD170-4

Repositories

This SPD EIS assumes, for the purposes of analysis, that Yucca Mountain, Nevada would be the final disposal site for all immobilized plutonium and MOX spent fuel. As directed by the U.S. Congress, through the NWPA, as amended, Yucca Mountain is the only candidate site currently being characterized as a potential geologic repository for HLW and spent fuel.

OREGON OFFICE OF ENERGY
MARY LOU BLAZEK
PAGE 2 OF 14

improvement in this performance. We recommend an analysis be done to determine the effects of long term storage of the immobilized plutonium at the candidate sites. | 4

The EIS analyses of the radiological consequences of accidents, construction and normal operations of the facilities proposed for Hanford under the various options were limited to a radius of 50 miles centered on Hanford. The presence of the Columbia River on the Hanford Site and the River's proximity to the major population centers of Oregon makes Hanford's situation unique. We recommend the analysis of radiological consequences be extended down the Columbia River at least to the John Day Dam. | 5

Attached are further specific comments on the EIS. Should you have any questions, please contact Douglas Huston of my staff at (503)378-4456.

Sincerely,



Mary Lou Blazek
 Administrator, Nuclear Safety Division
 Oregon Office of Energy

cc: Ms. Donna Powauke - Nez Perce Tribe
 Mr. J. R. Wilkerson - CTUIR
 Mr. Michael Wilson - Washington Ecology
 Mr. Douglas Sherwood - EPA
 Mr. Russell Jim - Yakama Nation

MD170

DOE has prepared a separate EIS, *Draft Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada* (DOE/EIS-0250D, July 1999), which analyzes the environmental impacts from construction, operation and monitoring, related transportation, and eventual closure of a potential geologic repository. The *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste* (WM PEIS) (DOE/EIS-0200-F, May 1997) includes an analysis of the impacts of the long-term storage of 21,600 canisters of vitrified HLW. As described in Section 2.4.2, if all surplus plutonium were immobilized, the surplus disposition program would produce an additional 272 canisters using the ceramic process or 395 canisters using the glass process. For the hybrid approach, these totals are reduced to 101 canisters (ceramic) and 145 canisters (glass), respectively. Accordingly, potential impacts associated with storage of these canisters are not significant when compared with the much larger bases for analyses noted above.

MD170-5

Human Health Risk

Both DOE and NRC evaluate radiological impacts to the population out to a distance of 50 miles (80 kilometers) from a site. This distance was first specified in Paragraph D, Section II of Appendix I to 10 CFR 50. It had been determined that essentially all of the dose to the population would be received within this 50-mi (80-km) radius. Further, predictions of atmospheric dispersion beyond this distance are not accurate because of changes in wind direction and speed that take place over time and distance from the points of radiological releases.

There are not expected to be any liquid radioactive discharges as a result of normal surplus plutonium disposition activities at Hanford. If there were, due to the dilution capability of the Columbia River, as well as FMEF's distance from the Columbia River, there should be no discernible contamination of aquatic biota (fish) or drinking water resulting from surplus plutonium disposition activities at Hanford, either from minute quantities of air deposition into the Columbia River or from any potential wastewater releases. Therefore, it is estimated that no measurable component of the public dose would be attributable to liquid pathways.

Oregon Office of Energy Comments on the Surplus Plutonium Disposition Draft Environmental Impact Statement.

Page 1 of 5

Section 1.1, Background, reserves the CANDU option for burning of Mixed Oxide (MOX) fuel. The Oregon Office of Energy opposes this based on recently revealed technical and financial problems associated with the CANDU reactors and increased proliferation risks. 6

Section 1.5 states that the Department Of Energy (DOE) is deferring the examination of the impacts and costs of final shutdown, cleanup and demolition of these facilities to some later Environmental Impact Statement. It is essential that these factors be considered in this Environmental Impact Statement in order to make an informed, reasonable analysis of the various options. 7

Section 1.7 asserts that waste will be disposed in accordance with decisions reached in various Records of Decision issued for the Waste Management Programmatic Environmental Impact Statement. This document was widely criticized for its inadequacy and we recommend that in making decisions concerning the fate of surplus plutonium disposition waste DOE take these criticisms into account. 8

In Section 2.3.1, Development of Facility Siting Alternatives, the criteria used to reduce possible facility and site combinations do not contain waste capacity/handling criteria. Would the site be able to handle and accommodate the amount and types of waste expected to be generated by these processes? We recommend that these criteria be added and the various candidate sites evaluated against them. 9

In several places, the Surplus Plutonium Disposition Environmental Impact Statement (EIS) contains statements about designing facilities to withstand natural phenomena such as earthquakes and tornadoes. Specifically what design criteria will be used, the Nuclear Regulatory Commission's (NRC), DOE's, state, or commercial standards? The Oregon Office of Energy recommends that the criteria to be used be specifically stated in the EIS. At a minimum, these standards should be set to the most conservative of the standards specified by the DOE, NRC, or commercial standards. 10

The EIS also does not discuss what general building and fire codes will be used in the construction of the various proposed facilities. These issues need to be discussed in the EIS. The EIS should specify compliance with the appropriate state and national codes. 11

For Hanford, the current Tank Waste Remediation System (TWRS) Privatization Contract does not include provisions for surplus plutonium disposition canister filling as described in Section 2.4.2.2.2, Immobilization Process. The impacts of this strategy on the TWRS Privatization contract should be evaluated and discussed. 12

MD170

MD170-6

Parallex EA

In the SPD Draft EIS, DOE retained the option to use some of the surplus plutonium as MOX fuel in CANDU reactors, which would have only been undertaken in the event that a multilateral agreement were negotiated among Russia, Canada, and the United States. Since the Draft was issued, DOE determined that adequate reactor capacity is available in the United States to disposition the portion of the U.S. surplus plutonium that is suitable for MOX fuel and, therefore, while still reserving the CANDU option, DOE is no longer actively pursuing it. However, DOE, in cooperation with Canada and Russia, proposes to participate in a test and demonstration program using U.S. and Russian MOX fuel in a Canadian test reactor. A separate environmental review, the *Environmental Assessment for the Parallex Project Fuel Manufacture and Shipment* (DOE/EA-1216, January 1999), analyzes the fabrication and proposed shipment of MOX fuel rods for research and development activities involving the use of limited amounts of U.S. MOX fuel in a Canadian test reactor. A FONSI was signed on August 13, 1999. Both of these documents can be viewed on the MD Web site at <http://www.doe-md.com>. If a decision is made to dispose of Russian surplus plutonium in Canadian CANDU reactors in order to augment Russian's disposition capability, shipments of the Russian MOX fuel would take place directly between Russia and Canada.

MD170-7

General SPD EIS and NEPA Process

D&D is discussed in Section 4.31. DOE will evaluate options for D&D or reuse of the proposed facilities at the end of the surplus plutonium disposition program. At that time, DOE will perform engineering evaluations, environmental studies, and further NEPA review to assess the consequences of different courses of action. Because cost issues are beyond the scope of this SPD EIS, this comment has been forwarded to the cost analysis team for consideration. The *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998) report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading

rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

MD170-8 Waste Management

The statement that waste would be disposed of in accordance with decisions reached in the various WM PEIS RODs was included in this SPD EIS to assure the reader that waste management activities would be handled in a manner consistent with the larger decisions being made in the WM PEIS. Comments on the WM PEIS are beyond the scope of this SPD EIS.

MD170-9 Waste Management

Impacts to waste management from the various alternatives for surplus plutonium disposition are described in the Waste Management sections in Chapter 4 of Volume I and Appendix H. None of the proposed alternatives would be expected to generate wastes that exceed current site capabilities with the exception of LLW and TRU waste at Pantex as described in the Pantex waste management sections (e.g., see Section 4.17.2.2). Decisions on the surplus plutonium disposition program will be based on environmental analyses (including analyses of waste management impacts), technical and cost reports, national policy and nonproliferation considerations, and public input.

MD170-10 Facility Accidents

As described in Appendix K.1.3.2, the proposed facilities for surplus plutonium disposition would be expected to meet or exceed the requirements of DOE Order 420.1, *Facility Safety* (October 1995), and *Natural Phenomena Hazards Design and Evaluation Criteria for Department of Energy Facilities* (DOE-STD-1020-94, April 1994), and for new construction, NRC requirements, as appropriate. For example, the MOX facility would meet the NRC requirements.

MD170-11 Infrastructure

As stated in Section 5.1, it is DOE's policy to conduct its construction and operation activities in an environmentally safe manner in compliance with all applicable Federal, State, and local statutes, regulations, and standards.

MD170-12

Immobilization

As discussed in Section 2.4.2.2.2, DOE anticipates that the use of the HLW vitrification plant at Hanford to fulfill plutonium disposition requirements would likely result in minor impacts to the operations of the TWRS contractor. Additional provisions would primarily be in the form of increased worker shielding requirements, and any necessary changes to the planned TWRS facility design would be made prior to construction. Programmatically, although several hundred additional canisters would need to be produced to support the surplus plutonium disposition program, this would represent a relatively small increase to the more than 10,000 canisters already anticipated to be produced over the course of the Hanford HLW mission. Further, no additional vitrified HLW would be needed to accomplish immobilization activities at Hanford.

Oregon Office of Energy Comments on the Surplus Plutonium Disposition Draft Environmental Impact Statement.
Page 2 of 5

There is no indication in this EIS that DOE will develop a comprehensive transportation plan in consultation with the appropriate corridor states and local tribes. We recommend that a comprehensive transportation plan be developed and that a statement to this effect be included in the EIS. 13

The EIS does not adequately discuss the technical properties of the immobilized plutonium. For example: What is the amount of plutonium in each unit of immobilized plutonium and how does this relate to a possible critical mass? How much shutdown margin does the immobilized waste form provide? We recommend that a discussion of the physical and nuclear properties of the immobilized plutonium be included in the EIS. 14

Section 2.4.3.1, MOX Facility Description, contains specific design details not included in the Statement of Work for the Request for Proposals for MOX Fuel Fabrication and Reactor Irradiation Services. These documents need to be reconciled. 15

The area required for various missions at Hanford seems to vary widely. For example: For immobilization, alternative 4b requires 6,698 square meters, and alternative 4a requires 13,694 square meters for the identical mission. These figures need to be clarified. 16

Further, alternative 6a states that 14,000 square meters is 150,700 square feet, and alternative 6b states that 14,000 square meters is 146,400 square feet. Actually 146,400 square feet is about 13,000 square meters. These figures need to be corrected. 17

Section 2.17.1, Process Description, states that about 100 kilograms of plutonium would be converted to MOX fuel from 321 kilograms of plutonium total. This varies significantly from the statement in the EIS Summary page S-19 that states that 100kg of plutonium would be converted to MOX from 600 kilograms of plutonium total during lead assembly fabrication. This discrepancy must be addressed. 18

The table on page 3-1 titled "Selected Characteristics of the Candidate Sites for Surplus Plutonium Disposition Facilities," does not contain units for the various numbers presented. These should be included. 19

The footnotes to Table 3-1 state that no sources of lead emission have been identified at Hanford. However, lead contaminated soil has been identified in the 300 Area burial ground. The source of this lead should be identified and a determination should be made if this soil or the source of its contamination constitute a lead emission source. 19

MD170

MD170-13

Transportation

The shipment of nuclear material (e.g., depleted uranium) using commercial carriers would be the subject of detailed transportation plans in which routes and specific processing locations would be discussed. These plans are coordinated with State, tribal, and local officials. The shipment of waste would be in accordance with the decisions reached on the WM PEIS and *WIPP Disposal Phase Final Supplemental EIS* (DOE/EIS-0026-S-2, September 1997). The transportation of special nuclear materials is the subject of detailed planning with DOE's Transportation Safeguards Division. The dates and times that specific transportation routes would be used for special nuclear materials are classified information; however, the number of shipments that would be required, by location, has been included in this SPD EIS. Additional details are provided in *Fissile Materials Disposition Program SST/SGT Transportation Estimation* (SAND98-8244, June 1998), which is available on the MD Web site at <http://www.doe-md.com>.

MD170-14

Immobilization

Section 2.4.2.2.2 discusses the immobilization process and states that between 26 kg (58 lb) and 28 kg (61 lb) of plutonium would be present in the canisters that would be sent to a potential geologic repository. These estimates are based upon each canister containing 28 individual cans of plutonium-ceramic (with each can containing a plutonium loading of 10 percent by weight), or 20 cans of plutonium-glass (with each can containing a plutonium loading of 8 percent by weight). Numerous R&D studies of the immobilized plutonium forms have been conducted by DOE and the national laboratories, in part to ensure all environmental, health and safety requirements are met including criticality repository performance concerns. Several technical studies continue. In order to avoid the possibility of a criticality, neutron absorbers are incorporated into the fabrication of the plutonium-ceramic or plutonium-glass. Evaluations of the immobilized forms under a range of potential repository conditions, including if the material were in a degraded state and exposed to water, have been conducted. All have indicated that the occurrence of a criticality would be extremely unlikely given the amounts of plutonium relative to the amounts of neutron-absorbing materials that would be present.

“Shutdown margin” is a term generally used in association with controlling the reaction in a nuclear reactor and it is not applicable to the immobilization process; as such this parameter has not been analyzed relative to the immobilized form.

For enhanced readability of this SPD EIS, supporting documentation and detailed analyses of the chemical, physical, and nuclear properties of the immobilized forms were published separately. Information on specific technical aspects of the immobilized forms can be found in the following documents: (1) the immobilization data reports published in conjunction with this SPD EIS; (2) *Report on Evaluation of Plutonium Waste Forms for Repository Disposal* (DI: A-00000000-01717-5705-00009, Rev. 00A, March 1996); (3) *Report on Intact and Degraded Criticality for Selected Plutonium Waste Forms in a Geologic Repository, Volume II: Immobilized in Ceramic* (DI: BBA000000-01717-5705-00020, Rev. 01, October 1998); (4) *Immobilization Technology Down-Selection Radiation Barrier Approach* (UCRL-ID-127320, May 1997); and (5) *Fissile Material Disposition Program Final Immobilization Form Assessment and Recommendation* (UCRL-ID-128705, October 1997). These documents are available to the public at DOE sites and regional reading rooms; the latter two are also available on the MD Web site at <http://www.doe-md.com>.

MD170-15

MOX RFP

Section 2.4.3 contains information from supporting technical reports that show how the MOX facility would be constructed and operated at each candidate site. Those supporting reports, the SPD Draft EIS, and other relevant documents were made available to the prospective bidders during the MOX procurement process. There was no need to duplicate all the information in both the SPD EIS and the MOX RFP. This EIS has been revised to include information received and analyzed during the MOX procurement. Section 4.28 discusses the potential environmental impacts of operating the reactors that would use the MOX fuel.

MD170-16

Alternatives

The amount of space for the immobilization facility in FMEF differs depending on how it is configured—alone (Alternative 4A) or collocated with either the

pit conversion or MOX facility (Alternative 2 or 4B, respectively). Sections 2.6, 2.8, 2.12, and 2.15.1 were revised to discuss the revision in the size projections for the immobilization facility; the facility is larger than as characterized in the SPD Draft EIS, and when collocated in FMEF with either of the other two proposed facilities, requires an additional annex. Total space requirements still differ somewhat due to the amount and location of space available in FMEF and how the functions can be accommodated within the available space.

The editorial error in the conversion between square meters and square feet was corrected.

MD170-17**MOX Approach**

DOE cannot find this discrepancy in the SPD Draft EIS. Both Section 2.17.1 and page S-19 of the *Draft Summary* make the same statement that about 100 kg (220 lb) of plutonium would be made into MOX fuel each year, using a total quantity of 321 kg (708 lb) of plutonium.

MD170-18**Candidate Sites**

The subject table, Selected Characteristics of the Candidate Sites for Surplus Plutonium Disposition Facilities, contains units for the numbers presented. As shown in the column titles, areas are in square kilometers (km²), populations are in number of people, MEI doses are in millirems (mrem), and population doses are in person-rem.

MD170-19**Candidate Sites**

Table 3-1 addresses general regions of influence for the affected environment and does not have footnotes. Table 3-3, Comparison of Ambient Air Concentrations From Hanford Sources, describes process emissions and does not include possible existing lead contamination of soils. The condition of a burial ground in the 300 Area is beyond the scope of this SPD EIS. This comment has been forwarded to the Richland Operations Office.

Oregon Office of Energy Comments on the Surplus Plutonium Disposition Draft Environmental Impact Statement.
 Page 3 of 5

Although a partial failure of the Grand Coulee dam is discussed in Section 3.2, there is no discussion of any type of failure of the Priest Rapids Dam which is immediately upstream of Hanford. We recommend that a discussion of this failure, or whether its consequences are bounded by the Grand Coulee failure, be included in this document. 20

Section 3.2.1.2.1, General Site Description, Page 3-8, second paragraph, discusses peak and off-peak noise levels along the major automobile traffic routes near the Hanford site. The peak noise level is described as 62 dBA, and the off-peak at 70dBA - this would appear to be backwards. 21

The Regional Economic Area (REA) defined in Section 3.2.3, Socioeconomics, is too small. The presence of the Columbia River on the Hanford Site and the potential impacts of Hanford operations on the one million Oregonians who live downstream along this River make Hanford a unique case. The REA should be expanded to include those areas in Oregon along the Columbia River. 22

Section 3.2.7, Water Resources, does not discuss Hanford's vadose zone contamination problems. A discussion of these should be included in this section. 23

Figure 3-8 shows a "West Pond." Section 3.8.1.1 refers to a "West Lake." These names should be consistent. 24

Section 3.2.9, Cultural and Paleontological Resources, refers to the "Cultural Resources Management Plan," (Batelle 1989). This document was found unacceptable by the Yakama Nation and is currently being re-written. Any decisions made based on this document must be re-visited once the new document is complete. 25

Section 4.2.11.1 states that the cultural and paleontological aspects of continued storage of plutonium under the no-action alternative would be independent of the proposed action. This is logically inconsistent. This statement needs to be clarified. 26

Section 4.2.13.1 does not discuss the need for more and more extensive maintenance on facilities at Hanford as they age under the no-action alternative. We recommend that this aspect of the no-action alternative be evaluated and formally discussed in the EIS. 27

Section 4.3, Alternative 2, does not discuss the impact on Hanford's high level waste of using the High Level Waste Vitrification (HLWVF) Plant for part of the immobilization process. It would reasonably be expected to impact the processing schedule, which would leave wastes in the tanks longer and constitute an increased risk. We recommend that this aspect of Alternative 2 and all other alternatives that involve use of the HLWVF Plant be evaluated and discussed. 28

MD170

MD170-20

Facility Accidents

The analysis that postulates a partial failure of the Grand Coulee Dam also assumes the failure of all subsequent downstream dams as a result of the influx of water caused by the postulated Grand Coulee failure. This bounds the hazard from a postulated failure of the Priest Rapids Dam alone. Details of the analysis can be found in the documents referenced in Section 3.2.7.

MD170-21

Air Quality and Noise

Section 3.2.1.2.1 was clarified to state that both the peak and offpeak equivalent sound levels (1 hr) from State Route 24 were 62 dBA, and both the peak and offpeak equivalent sound levels (1 hr) from State Route 240 were 70 dBA.

MD170-22

Socioeconomics

Hanford is located in the Richland/Kennewick/Pasco, Washington economic area, which was delineated by the DOC's Bureau of Economic Analysis. An economic area is defined by one or more economic nodes (metropolitan areas or similar areas that are centers of economic activity) and the surrounding counties that are economically related to the nodes. Commuting patterns play a major factor in defining the economic areas.

MD170-23

Water Resources

The vadose zone contamination largely occurs beneath the HLW tanks in the 200 Area. The construction and operation of the HLW Vitrification Facility are described in the *Tank Waste Remediation System, Hanford Site, Richland, Washington, Final Environmental Impact Statement* (DOE/EIS-0189, August 1996). Although the proposed immobilization approach would use the vitrification plant in the 200 Area, it is not expected to contribute to any vadose zone contamination.

MD170-24

Water Resources

Figure 3-8 was revised to read "West Lake."

MD170-25

Cultural and Paleontological

DOE acknowledges the commentor's concerns regarding cultural resources management. The concerns of the Yakama Indian Nation over the effects of

any surplus plutonium disposition activities at Hanford would be taken into account during government-to-government consultation conducted by DOE with the tribe in accordance with Federal laws, treaties, and agreements. Cultural resources management activities related to the surplus plutonium disposition program conducted at the site would be performed in accordance with the most current Hanford Cultural Resources Management Plan. The Yakama Indian Nation was contacted by letter in October 1998 as shown in Appendix O. To date, a response has not been received.

MD170-26 Cultural and Paleontological

Section 4.2.11 was revised to clarify that any impacts to cultural and paleontological resources from the continued storage mission under the No Action Alternative would be addressed through ongoing regulatory compliance procedures and consultations as described in the *Storage and Disposition PEIS*.

MD170-27 Infrastructure

The planned completion date for the Hanford site cleanup is 2046 as described in *Accelerating Cleanup: Paths to Closure* (DOE/EM-0362, June 1998). Therefore, maintenance of the site infrastructure would be provided to support Hanford's cleanup mission during this period, regardless of decisions related to surplus plutonium disposition. Impacts associated with providing continued surveillance and maintenance are beyond the scope of this SPD EIS. Surplus plutonium disposition activities, including D&D, are expected to be completed by 2019, which is well before the site is expected to be cleaned up in 2046.

MD170-28 Immobilization

The use of the HLW facility for canister filling would not be expected to seriously impact the schedule for processing Hanford tank wastes because the canisters with surplus plutonium would feed directly into the line and would make up a small percentage of the total number of HLW canisters that need to be vitrified.

Oregon Office of Energy Comments on the Surplus Plutonium Disposition Draft Environmental Impact Statement.
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Tables 4-55 and 4-56 should be labeled to indicate which table presents Hanford data and which table is for Pantex.	29
The Hanford and Pantex statistics in Table 4-57 should be separated in the table for easier reference even though clarification is available in the paragraph following the table.	30
Noise impacts on wildlife are not consistently discussed from alternative to alternative. We recommend that discussions of these impacts be included in all alternatives.	31
The EIS assumes that the Waste Isolation Pilot Plant (WIPP) will be open on schedule. Recent events suggest that this might not be the case. We recommend that the impact of a 1-year delay in the opening of WIPP be evaluated and its impact on all the alternatives discussed.	32
The facility accidents sections of each alternative do not contain any discussion of possible synergistic effects of accidents in buildings where more than one processing function is in progress. For example, Alternative 6b: Pit Conversion and MOX co-located in the Fuels and Materials Examination Facility at Hanford. We recommend that this discussion be included in this section for all alternatives that involve co-located facilities.	33
Section 4.32 does not include the Groundwater/Vadose Zone/Columbia River integration project at Hanford as a reasonably foreseeable action. We recommend that this be included and evaluated.	34
Section J.1.1.5, Other Computational Assumptions, states that ground surfaces were assumed to have no previous deposition of radionuclides. This statement needs to be clarified for Hanford since there is a large amount of currently contaminated ground surface on the Hanford Site.	35
Table K-1 should include units for the values listed.	36
Section K.14.2, Modeling of Dispersion of Releases to the Environment, makes the statement that ingestion pathways have been studied and found not to contribute as significantly to dosage as inhalation. This is not necessarily true if you consider the Native American Subsistence Scenario. We recommend that this assumption be re-evaluated.	37

MD170

MD170-29

Waste Management

The titles for Tables 4-46 and 4-47 already contain the name of the site for which the impact data are presented. Table 4-46 provides the potential waste management impacts of construction at Pantex; Table 4-47, the corresponding impacts at Hanford.

MD170-30

Socioeconomics

DOE acknowledges the commentor's request for clarification. The data for Hanford and Pantex in Table 4-48 are already separated. The "Pit Conversion" column contains the Pantex data; the "Immobilization" and "MOX" columns, the Hanford data. The title of Table 4-48 indicates that the data are for pit conversion at Pantex and immobilization and MOX at Hanford.

MD170-31

Ecological Resources

The Ecological Resources portions of Section 4.26 were revised to make the discussions of potential noise impacts on wildlife more consistent. The Air Quality and Noise sections in Chapter 4 of Volume I discuss the noise impacts for each of the candidate sites, which would bound the impacts for each of the alternatives at each particular site. No Federally listed threatened or endangered species or their critical habitats would be affected because, with the exception of SRS, none have been sighted on or near the proposed site locations. At SRS, the American alligator has been observed near F-Area, but its occurrence there is seen as uncommon. Noise impacts on ecological resources would be of short duration and would likely be minor for each alternative.

MD170-32

Waste Management

This SPD EIS did not assume that WIPP would open on schedule. However, WIPP began receiving shipments of TRU waste for permanent disposal on March 26, 1999. As described in Appendix F.8.1, and the Waste Management sections in Chapter 4 of Volume I, it is conservatively assumed that TRU waste would be stored at the candidate sites until 2016 at which time it would be shipped to WIPP in accordance with DOE's plans.

MD170-33**Facility Accidents**

Synergistic effects become significant when accidents at multiple facilities can affect the same receptor (person or location). For the proposed surplus plutonium disposition facilities, synergistic effects were taken into account for seismic events (i.e., design basis or beyond-design-basis earthquakes). The synergy here is due to the common cause initiator (i.e., seismic ground motion). This is accounted for by summing population doses and LCFs for these scenarios for facilities located at the same site. This analysis is presented in the Facility Accidents sections in Chapter 4 of Volume I. Doses for the MEI were not summed because an individual would only receive a summed dose if he or she were located along the line connecting the release points from two facilities and if the wind were blowing along the same line at the time of the accident. A brief discussion of synergistic effects was added to Appendix K.1.3.2.

MD170-34**Cumulative Impacts**

Section 4.32 was revised to include additional and updated reasonably foreseeable actions at each of the candidate sites, including Hanford. The Groundwater/Vadose Zone/Columbia River integration project is not expected to impact the cumulative impacts studied in this SPD EIS.

MD170-35**Human Health Risk**

The calculations were performed to assess the doses from operating the proposed surplus plutonium disposition facilities. The presence on the ground of previously deposited radionuclides does not affect the doses specifically associated with operating these facilities. Doses from existing ground contamination are included in the current Hanford site doses reported in Section 3.2.4. The total doses from existing contamination and from operating the proposed surplus plutonium disposition facilities are reflected in the cumulative doses given in Section 4.32. There would be no releases of radioactivity during the construction of the proposed surplus plutonium disposition facilities, and therefore no associated radiological impacts (e.g., see Section 4.3.1.4).

MD170-36

Facility Accidents

DOE appreciates the feedback on the SPD Draft EIS. Table K-1 was revised to include units for the values.

MD170-37

Facility Accidents

The Native American subsistence scenario represented exposures to a Native American who engaged in both traditional lifestyle activities (e.g., hunting, fishing, and using a sweat lodge) and contemporary lifestyle activities (e.g., irrigated farming). Exposure pathways included those defined for the residential farmer scenario plus additional pathways unique to the Native American subsistence lifestyle (such as sweat lodge use). The exposures were assumed to be continuous for 365 days per year over a 70-year lifetime. The scenario used native food ingestion rates. This scenario was developed for the *Tank Waste Remediation System Final Environmental Impact Statement* (DOE/EIS-0189, August 1996). It was found that by incorporating subsistence lifestyle activities and native food ingestion rates, this scenario resulted in exposures that would be approximately 5 times higher than the exposures for the residential farmer scenario. It must be realized, however, that this scenario was developed within the context of post-remediation risk (the risk resulting from residual contamination remaining on the site after remediation is completed) as opposed to the risk from accidents. The analysis of accidents in the above-referenced EIS was performed in a similar manner to that of this SPD EIS, restricting the dose pathway to inhalation and setting (dry) deposition velocities to zero. Also, the *Tank Waste Remediation System Final EIS* (DOE/EIS-0189, August 1996) was concerned with the radioactive contaminants in the waste tanks at Hanford, which contain primarily fission products. Many of these fission products are far more mobile through soil and water pathways than plutonium, the primary radiological hazard in this SPD EIS. Consequently, the current facility accident methodology is considered to be adequate in light of the Native American subsistence scenario and consistent with the assessment of consequences in the *Tank Waste Remediation System Final EIS* (DOE/EIS-0189, August 1996).

Oregon Office of Energy Comments on the Surplus Plutonium Disposition Draft Environmental Impact Statement.
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Section K.14.2, Modeling of Dispersion of Releases to the Environment, states criticality doses are based on 1×10^{19} fissions. Most prior criticality accidents have been self-limiting for a variety of reasons, including boiling of water in solutions. It is not clear that the potential accidents for these facilities would be conservatively bounded by these assumptions. Therefore, we recommend that the basis for the number of fissions assumed in the criticality accidents be discussed. 38

The ground surface accelerations used in Section K.15.1, Beyond Design Basis Earthquake, are outdated. We recommend the most recent ground surface accelerations be used. 39

The adjustment of the damage ratio for plutonium in the vault from 0.5 to 0 on a beyond design basis earthquake (page K-15) is not realistic. Some of the plutonium containers will be damaged. We recommend that, to be conservative, the damage ratio be re-set to 0.5. 40

The following typographical or grammatical errors were discovered:

Summary, page S-22, "summarize" should be "summarizes."
 Section 2.1.3, page 2-8, second paragraph, first sentence – the words "a potential" appear to be extraneous.
 Section 3.2.8.2.2, page 3-36, third paragraph, last sentence – the verb should be "are" rather than "is."
 Section 3.2.9.3.1, page 3-39, first paragraph, second sentence – "Yakima" should be "Yakama." 41

MD170

MD170–38

Facility Accidents

Appendix K.1.4.2 does not address the criticality source term, so it is assumed that the commentor is referring to Appendix K.1.5.1, where it is stated that the source term for the analyzed criticality is based on a fission yield from 1.0×10^{19} fissions in an oxide powder. This value is conservative compared with the guidance in *Airborne Release Fractions/Rates and Respirable Fractions for Nonreactor Nuclear Facilities* (DOE-HDBK-3010-94, October 1994), which specifies a reference yield level of 1.0×10^{18} fissions for fully moderated and reflected solids, and 1.0×10^{17} for dry powder and metal (Sections 6.3.2 and 6.3.3, respectively).

MD170–39

Facility Accidents

Appendix K.1.5.1 was revised to delete the out-of-date ground acceleration data referred to by the commentor.

MD170–40

Facility Accidents

The proposed surplus plutonium disposition facilities would be designed to Category 1 seismic criteria, meaning that a building collapse would be extremely unlikely. The assumption of vault survivability of the beyond-design-basis earthquake is based on the fact that the vaults would be designed with significantly more robustness than the balance of the proposed facilities. These requirements for the additional robustness derive from a desire for increased protection of the vault contents against physical catastrophes such as aircraft crash and against the threat of nuclear proliferation. Design features to address these concerns would increase vault survivability of a beyond-design-basis earthquake. Specifically, the vault would be expected to survive seismic events of sufficient magnitude to collapse the processing areas of the proposed facilities. The assumptions incorporated into this SPD EIS analyses are considered to be appropriate for assessment of environmental impacts and comparison of alternatives considered.

MD170–41

General SPD EIS and NEPA Process

DOE appreciates the feedback on the SPD Draft EIS. The errors were corrected.



Oregon

John A. Kitzhaber, M.D., Governor

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Testimony Before the
U.S. Department of Energy
on the Surplus Plutonium Draft Environmental Impact Statement

Michael Graine, Assistant Director
Oregon Office of Energy
August 18, 1998

Good afternoon. My name is Michael W. Graine. I am Assistant Director of the Oregon Office of Energy. I am here today on behalf of the State of Oregon. I will make a few remarks here today, and later we will submit more extensive written testimony on the Surplus Plutonium Draft Environmental Impact Statement.

We thank you for holding this hearing in Oregon and for the opportunity to express our concerns about the disposition of surplus plutonium. We recognize that the fate of surplus plutonium is an issue that transcends regional interests. The State of Oregon applauds the efforts to reduce nuclear weapons inventories worldwide and the related efforts to reduce the available stores of plutonium.

At the same time, we are especially concerned about any action at Hanford that would increase what is already a fundamental threat to the Columbia River — and a threat to the well-being of the millions of Oregonians who rely on the river. We remain opposed to any activities at Hanford that would detract from cleaning up what has been described as the most contaminated site in the Western Hemisphere. Because of this concern about Hanford cleanup, we support the draft statement in its selection of other sites as superior to Hanford for the fabrication of mixed oxide fuel.

We also support former Secretary Peña in his recent announcement that Hanford's mission should be exclusively focused on cleanup. For example, the use of the Hanford Fuels and Materials Examination Facility for weapons disassembly or fuel assembly would contaminate a clean facility at Hanford. We oppose the contamination of yet even more buildings at Hanford.

So do Oregon citizens. Three years ago, we held statewide public forums for more than 800 citizens to hear their opinions on plutonium disposition. Three messages clearly emerged from the forums: Cleanup must remain the only mission at Hanford. Vitrification is the least objectionable option for plutonium disposal. And Oregon must have a stronger voice on Hanford issues. In 1997, Oregon's Legislature mirrored this popular support for cleanup by passing a bill opposing any Hanford operations that would create more waste at the site and divert cleanup efforts.

ORD03

ORD03-1

Alternatives

DOE acknowledges the commentor's support of the surplus plutonium disposition program.

ORD03-2

Alternatives

DOE acknowledges the commentor's concern about potential contamination of the Columbia River. DOE believes that Hanford's efforts should remain focused on its current high-priority cleanup mission. The importance of cleanup at Hanford was taken into consideration in identifying preferred sites for surplus plutonium disposition activities. However, no decision has been made, and DOE will continue to consider Hanford for surplus plutonium disposition or other programs that are compatible with the Hanford mission.

ORD03-3

Alternatives

DOE acknowledges the commentor's opposition to the use of FMEF at Hanford for surplus plutonium disposition activities.

ORD03-4

Alternatives

DOE acknowledges the commentor's support for the immobilization approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

OREGON OFFICE OF ENERGY
MICHAEL GRAINEY
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Grainey Testimony/p. 2
Aug. 18, 1998

We know that the scope of this hearing and the draft environmental impact statement does not include the issue of where mixed oxide fuel will be burned once it is fabricated. As we said earlier in this process, we continue to believe that vitrification is a faster and safer option than burning — and poses less risk to both people and the environment. Vitrifying could also be less costly than the burn option. We continue to urge the Department to seriously consider a 100 percent vitrification option for the surplus plutonium. 4

Thank you.

ORD03

69th OREGON LEGISLATIVE ASSEMBLY—1997 Regular Session

Enrolled
House Bill 3640

Sponsored by Representative SOWA; Representative ROBERTS, Senators DERFLER, TROW

CHAPTER 00617

AN ACT

Relating to nuclear facilities.

Be It Enacted by the People of the State of Oregon:

SECTION 1. The Legislative Assembly and the people of the State of Oregon find that:

(1) The maintenance of healthy, unpolluted river systems, airsheds and land are essential to the economic vitality and well-being of the citizens of the State of Oregon and the Pacific Northwest.

(2) Radioactive waste stored at the Hanford Nuclear Reservation is already leaking into and contaminating the water table and watershed of the Columbia River and radioactive materials and toxic compounds have been found in plants, animals and waters downstream from the Hanford Nuclear Reservation and constitute a present and potential threat to the health, safety and welfare of the people of the State of Oregon.

(3) The Hanford Nuclear Reservation is now one of the most radioactively contaminated sites in the world, according to government studies, and will require billions of dollars in costs for cleanup and the ongoing assessment of health effects.

(4) In November 1990, the people of the State of Oregon, by direct vote in a statewide election, enacted a moratorium on the construction of nuclear power plants, and no nuclear power plants are presently operating in the State of Oregon.

(5) In May 1987, the people of the State of Oregon, by direct vote in a statewide election, enacted Ballot Measure 1, opposing the disposal of highly radioactive spent fuel from commercial power plants at the Hanford Nuclear Reservation.

(6) In 1995, the Legislative Assembly resolved that Oregon should have all legal rights in matters affecting the Hanford Nuclear Reservation, including party status in the Hanford tri-party agreement that governs the cleanup of the reservation.

(7) Throughout the administrations of Presidents Ford, Carter, Reagan and Bush, the policy of the Federal Government banned the use of plutonium in commercial nuclear power plants due to the risk that the plutonium could be diverted to terrorists and to nations that have not renounced the use of nuclear weapons.

(8) The Federal Government has announced that it will process plutonium from weapons with uranium to produce mixed oxide fuel for commercial nuclear power plants and other nuclear facilities. The Hanford Nuclear Reservation, located on the Columbia River, is a primary candidate site being considered for the production facilities.

(9) The production of mixed oxide fuel will result in enormous new quantities of radioactive and chemical wastes that will present significant additional disposal problems and unknown costs.

OREGON OFFICE OF ENERGY
MICHAEL GRAINEY
PAGE 4 OF 4

SECTION 2. The Legislative Assembly and the people of the State of Oregon:

(1) Declare that the State of Oregon is unalterably opposed to the use of the Hanford Nuclear Reservation for operations that create more contamination at the Hanford Nuclear Reservation, divert resources from cleanup at the Hanford Nuclear Reservation and make the Hanford Nuclear Reservation cleanup more difficult, such as the processing of plutonium to fuel nuclear power plants, reactors or any other facilities, and further declare that vitrification in a safe manner is the preferred means to dispose of excess plutonium, in order to protect human health and the environment.

(2) Request that the President of the United States and the Secretary of the Department of Energy continue their previous policy of banning the use of plutonium to fuel commercial power plants and nuclear facilities.

(3) Request that the Federal Government honor the Federal Government's original mandate to implement and complete the cleanup and restoration of the Hanford Nuclear Reservation.

SECTION 3. Not more than 10 days after the effective date of this Act, the Secretary of State shall transmit copies of sections 1 and 2 of this Act to the President of the United States, the Secretary of the Department of Energy, the Majority Leader of the United States Senate, the Speaker of the United States House of Representatives, each member of the Oregon Congressional Delegation, the Governors of the other 49 states and the tribal councils of the federally recognized Indian tribes in Oregon, Washington and Idaho.

Passed by House June 10, 1997

Ramona J. Kenagy
Chief Clerk of House
J. Lundquist
Speaker of House

Received by Governor:
2:08 P.M. July 4, 1997

Approved:
3:29 P.M. July 25, 1997

John W. Egan
Governor

Passed by Senate June 19, 1997

Burdette J. Brown
President of Senate

Filed in Office of Secretary of State:
4:43 P.M. July 25, 1997

Pat Hickey
Secretary of State



United States
Department
of Energy

Comment Form

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MOX SHOULD NOT BE ALLOWED ANYWHERE. MY
Grandson shooting an environmental film on the
Columbia says the River has orange sludge on it -
a "gift" of all the chemicals which abound. I work
with young children in the public schools. Wandering
children who at the age of 5 & 6 can read & write &
spell & do numbers. ASTOUNDING - to me. But what kind
of world for these baby geniuses? What of THEIR future?
Can we promise them a clean, safe, healthy environment?
WHY NOT? And what of all the healthy people who will
be rendered ill? All of us in good conscience must say
NO to these mad nuclear machinations. SO, I support ALL
the slogans: NO to nuclear proliferation! Clean up Hanford!
Save the beautiful Columbia - in Woody Guthrie's name!
NIX MOX. There are alternative forms of energy which are
acceptable and safe... and inexpensive. The future is in
your hands. If we don't survive, it will be on your conscience.
If you are still around. Think carefully. Think about the
people. Do not poison us - the atmosphere, the environment,
the water. Keep it ALL safe, healthy & clean. We are
DEPENDENT on you to take care of us. DO YOUR JOB
WELL. Be on the side of the people, not the corporations
SAVE THE EARTH. Look before you leap... & listen closely
& carefully to these voices of protest, voices who want a future.

1

ORD16-1

MOX Approach

DOE acknowledges the commentor's opposition to the MOX approach. DOE believes that Hanford's efforts should remain focused on its current high-priority cleanup mission. The importance of cleanup at Hanford was taken into consideration in identifying preferred sites for surplus plutonium disposition activities. However, no decision has been made, and DOE will continue to consider Hanford for surplus plutonium disposition or other programs that are compatible with the Hanford mission.

Use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. The MOX facility would produce nuclear fuel that would displace LEU fuel that utilities would have otherwise purchased. If the effective value of the MOX fuel exceeds the cost of the LEU fuel that it displaced, then the contract provides that money would be paid back to the U.S. Government by DCS based on a formula included in the DCS contract. The commercial reactors selected for the MOX approach include only those reactors whose operational life is expected to last beyond the life of the surplus plutonium disposition program. To this end, surplus plutonium would be subject to stringent control, and the MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation would be a once-through cycle with no reprocessing.



United States
Department
of Energy

Comment Form

NAME: (Optional) Don Peterson
ADDRESS: 1366 S.W. Taylor's Ferry Ct. Portland, OR. 97219
TELEPHONE: (503) 244-3933

E-MAIL:
Relative to the proposed MOX program at Hanford, Wash. I
reject this proposal and as demand that you do not pursue
it any further. I am opposed to any increase in nuclear
waste when in fact we (the US) have no safe place for storage
because there is no place and can never be any safe
storage of such deadly dangerous substance as radioactive
waste. The shipment of waste produced by MOX is also
highly objectionable, endangering communities and the
environment wherever it may travel.

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NO! to MOX
NO! to nuclear energy
NO! to uranium extraction

Sincerely, D. Peterson

MD247

MD247-1

Alternatives

DOE acknowledges the commentor's opposition to the MOX approach to surplus plutonium disposition, and in particular siting the MOX facility at Hanford. DOE believes that Hanford's efforts should remain focused on its current high-priority cleanup mission. The importance of cleanup at Hanford was taken into consideration in identifying preferred sites for surplus plutonium disposition activities. However, no decision has been made, and DOE will continue to consider Hanford for surplus plutonium disposition or other programs that are compatible with the Hanford mission.

The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. Converting the surplus plutonium into MOX fuel and using it in domestic, commercial reactors is an effective way to accomplish this. To this end, surplus plutonium would be subject to stringent control, and the MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation would be a once-through cycle with no reprocessing. After irradiation, the MOX fuel would be removed from the reactor and managed with the rest of the spent fuel from the reactor, eventually being disposed of at a potential geologic repository built in accordance with the NWPA.

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**W. P. Mead, Director
Public Safety Resources Agency
P. O. Box 724
Portland, OR 97207-0724**

GENERAL NOTE

Much of the following information was presented on Tuesday, August 18, 1998 at a Public Meeting held in Portland, Oregon on the above-captioned subject. Additional comments, based on information received after that date, are also included to sustain questions that were raised at that Public Meeting.

Although these comments are being sent directly to the Department of Energy, other recipients are strongly encouraged to forward this information to other contacts to achieve the widest-possible distribution and to assist in developing additional lines of inquiry.

Much of this information was developed during and preparatory to a research tour of Canada and the mid-western United States during the period of June 23 through August 7, 1998. This research included reviewing available public printed and WWW documents; e-mail and telephone communications with persons employed by AECEB, AECL and Ontario Hydro; and a subsequent review of Ontario Hydro's engineering and design documents at their Bruce NPD facility.

Readers may contact PSRA at the above addresses regarding questions about this information or additional related data that has been referred to in this comment and which is undergoing review.

W. P. Mead, Director
Public Safety Resources Agency
Portland, Oregon
September 16, 1998

TO: United States Department of Energy
Office of Fissile Materials Disposition
c/o SPD EIS
P. O. Box 23786
Washington, D. C. 20026-3786

FROM: W. P. Mead, Director
Public Safety Resources Agency
P. O. Box 724
Portland, OR 97207-0724
E-mail: "bilim@bandl.bandwidth.net"

DATE: September 16, 1998

RE: Public Comments - Surplus Plutonium Disposition;
Draft Environmental Impact Statement

MD236

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INTRODUCTORY COMMENTS

The disposal of Surplus Weapons Plutonium has been channeled into two primary processes: Immobilization, and MOX Fuel that would be "burned" in nuclear reactors. Most of the comments we've reviewed about the SPD DEIS appear to overwhelmingly favor immobilization (vitrification within high-level radioactive wastes from our nuclear defense legacy) over the MOX Fuel option.

While MOX Fuel is technically not a satisfactory answer for disposal of all Surplus Weapons Plutonium, Immobilization of the entire inventory of Surplus Weapons Plutonium is technically feasible and could be achieved much more rapidly and with less cost, fewer security risks, fewer adverse societal ramifications, and without creating additional waste streams to endanger the environment and public health and safety.

The use of MOX Fuel introduces many additional factors that may lessen the degree of control over the reactor's core. MOX Fuel requires higher operating core temperatures and pressures and significantly reduces the "margin of error" that is allowed when operating the reactor. Also, we have no true operational experience with these types of core loadings. Therefore, what we have based our "findings" on to date are, in reality, only conjecture about what we hope to achieve.

Regardless of the increasing body of research that now indicates that MOX Fuel is an expensive and risky alternative, the fact remains that it most likely will be used as a primary disposal option. Acting under that assumption, PSRA explored alternatives to existing LWRs (Light Water Reactors) in the United States.

Most of the persons and organizations who oppose the MOX Fuel option have concentrated on the safety issues that are associated with using MOX Fuel in Light Water Reactors such as those currently used to produce power in the United States, however it is important to also determine whether MOX Fuel can be safely used to run CANDU Reactors as was proposed as an alternative and/or supplemental platform.

PSRA has studied this issue and hopes to focus additional attention on this option and the safety, societal and security concerns that must be addressed before using MOX Fuel in CANDU power reactors currently operating in Ontario, Canada. To that end, we offer the following comments for the public record.

SPECIFIC COMMENTS

The National Academy of Sciences' 1995 Report ["Management and Disposition of Excess Weapons Plutonium Reactor-Related Options for the Disposition of Excess Weapons Plutonium, Committee on International Security and Arms Control, National Academy Press, Washington, D.C., 1995] raised questions about the CANDU Reactor's role in the disposition of Surplus Weapons Plutonium by using it as MOX Fuel in existing Canadian reactors.

NAS reported that the information cited in their Report had been submitted by AECL too late to undergo Peer Review of AECL's claims of CANDU's suitability and safety when using MOX Fuel.

It is important that we realize that the selection of MOX Fuel as a disposal option vastly changes the dimensions of the joint agreement between Russia and the United States. The inclusion of the MOX Fuel option has opened-up new industrial and marketing channels throughout the world, including Great Britain, Europe and Japan.

MD236

MD236-1

Alternatives

DOE acknowledges the commentor's concern about the use of MOX fuel in domestic, commercial reactors. The fabrication of MOX fuel and its use in commercial reactors have been accomplished in Western Europe, and electricity was generated from MOX fuel on a demonstration basis in the United States in the early 1970s. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

Consistent with the U.S. policy of discouraging the civilian use of plutonium, a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation would be a once-through cycle with no reprocessing.

Potential waste management impacts of the proposed surplus plutonium disposition program are analyzed in this SPD EIS for each candidate site, and a detailed analysis is provided in Appendix H. As described in Sections 2.18.3 and 4.28.2.8, additional spent fuel would be produced by using MOX fuel instead of LEU fuel in domestic, commercial reactors. Spent fuel management at the proposed reactor sites is not expected to change dramatically due to the substitution of MOX assemblies for some of the LEU assemblies. Likewise, the additional spent fuel would be a very small fraction of the total that would be managed at the potential geologic repository.

Decisions on the surplus plutonium disposition program will be based on national policy and nonproliferation considerations, environmental analyses, technical and cost reports, and public input.

MD236-2

MOX Approach

Only a partial, not full, MOX fuel core would be used in the selected reactors, which would require only slight modifications to reactor operations. Core load and safety analyses would be performed, and an NRC license amendment approved, prior to MOX fuel being introduced into any reactor. Operations and maintenance procedures would be revised as necessary to accommodate the use of MOX fuel. Section 4.28 was revised to provide reactor-specific analyses and discuss the potential impacts of using a partial MOX core during routine operations and reactor accidents.

Disposition of surplus plutonium will cost money, regardless of the method used. The MOX facility would produce nuclear fuel that would displace LEU fuel that utilities would have otherwise purchased. If the effective value of the MOX fuel exceeds the cost of the LEU fuel that it displaced, then the contract provides that money would be paid back to the U.S. Government by DCS based on a formula included in the DCS contract.

MD236-3

Parallex EA

In the SPD Draft EIS, DOE retained the option to use some of the surplus plutonium as MOX fuel in CANDU reactors, which would have only been undertaken in the event that a multilateral agreement were negotiated among Russia, Canada, and the United States. Since the Draft was issued, DOE determined that adequate reactor capacity is available in the United States to disposition the portion of the U.S. surplus plutonium that is suitable for MOX fuel and, therefore, while still reserving the CANDU option, DOE is no longer actively pursuing it. However, DOE, in cooperation with Canada and Russia, proposes to participate in a test and demonstration program using U.S. and Russian MOX fuel in a Canadian test reactor. A separate environmental review, the *Environmental Assessment for the Parallex Project Fuel Manufacture and Shipment* (DOE/EA-1216, January 1999), analyzes the fabrication and proposed shipment of MOX fuel rods for research and

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Instead of limiting the proliferation of Plutonium, these countries will be the controlling interests in spreading a Plutonium-based economic infrastructure in areas that do not currently have readily-accessible Plutonium.

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Much of PSRA's recent e-mail has been forwarded on behalf of persons who live in the State of Michigan and the adjacent areas of the Province of Ontario, Canada, that will be the site of MOX Fuel transportation, testing and disposal once the MOX Fuel has been irradiated in CANDU reactor(s) at the Bruce Nuclear Power Development facility near Tiverton, Ontario.

In an effort to better understand these issues, I visited these areas in July 1998. Although the findings stated below are only preliminary as of this date, the on-going review process has shown no valid reason why they should not be included in our comments.

First, it should be clearly understood that the inclusion of the CANDU Reactor as a MOX Fueled disposal option adds another three separate entities to the current equation that already includes the Russians, the United States, potential infrastructure contractors in Europe and the United States, and the owner/operators of civilian power reactor utilities. These three entities are:

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1. **AECB (Atomic Energy Control Board)** - The Canadian Government's equivalent to the Nuclear Regulatory Commission here in the United States.

2. **AECL (Atomic Energy of Canada, Limited)** - The design, construction and marketing arm that is heavily involved in Russian plutonium operational planning; and

3. **Ontario Hydro** - The reactor operators in Ontario;

Now that we've identified the Canadian entities, it's time to see how this puzzle fits together, why it soon becomes controversial, and to bring to light some of the misunderstandings and/or inconsistencies that have been presented by these three parties.

1. **AECB:**

PSRA contacted AECB in May 1998 to determine its role in the MOX Fuel project. AECB stated that its sole role would be to ensure the safety of the fuel and reactors, and that it would establish rules to ensure compliance. AECB had already posted information on its Website that related to the requirement of safe and secure transportation and storage of MOX Fuel.

It is interesting to note that recent statements in the Canadian Press attributed to AECL contradict this information about secure transportation while in Ontario. The U. S. Department of Energy has stated that MOX Fuel shipments would comply with SST-2 [Safe Secure Transport - 2] levels to ensure security while in the United States.

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This would include armed escorts to counter any attempted hijacking of MOX Fuel. While Canada's AECB had stated it would comply with this standard, AECL has made statements that contradict AECB's. Has AECL superseded AECB's role in safeguarding plutonium?

MD236

development activities involving the use of limited amounts of U.S. MOX fuel in a Canadian test reactor. A FONSI was signed on August 13, 1999. Both of these documents can be viewed on the MD Web site at <http://www.doe-md.com>. If a decision is made to dispose of Russian surplus plutonium in Canadian CANDU reactors in order to augment Russian's disposition capability, shipments of the Russian MOX fuel would take place directly between Russia and Canada. Activities in Canada would be conducted in accordance with applicable Canadian laws and regulations and would be regulated by the appropriate government authorities.

MD236-4

Nonproliferation

DOE believes the MOX approach to surplus plutonium disposition would help implement rather than change the commitments between Russia and the United States. In late July 1998, Vice President Gore and Russian Prime Minister Sergei Kiriyenko signed a 5-year agreement to provide the scientific and technical basis for decisions concerning how surplus plutonium will be managed. This agreement enables the two countries to explore mutually acceptable strategies for safeguarding and dispositioning surplus plutonium. During the first week of September 1998, Presidents Clinton and Yeltsin held a Moscow summit and signed a statement of principles with the intention of removing approximately 50 t (55 tons) of plutonium from each country's stockpile.

The remainder of this comment is addressed in response MD236-1.

MD236-5

Parallex EA

DOE is no longer actively pursuing the CANDU option as discussed in response MD236-3.

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The following is an excerpt from Tom Spears' article in the Ottawa Citizen [Page A1-A2, Sunday 30 August 1998: "AECL's Cold War cargo - Plutonium from nuclear warheads to pass through Ottawa Valley to Chalk River."].

According to that report, AECL's spokesman, Larry Shewchuk, stated that high security won't be needed for the imported weapons material. "There's no police escorts or anything like that."

(AECL has consulted the Ontario Provincial Police about the shipment, but the OPP said it sees no security problems and won't be involved in the shipment.)

The exact timing of the test shipment is secret. While it may be possible to conceal the transportation from Los Alamos, New Mexico, to Chalk River, Ontario, of the initial test MOX Fuel, it is extremely doubtful that SST-2 shipments to the U.S./Canadian border could be concealed from the public.

The initial test will consist of MOX Fuel that contains approximately 600 grams (1.3 pounds) of Surplus Weapons Plutonium in the fuel assemblies; a full core loading in an average CANDU Reactor at the Bruce NPD facility uses nearly 3,185,600 pounds of natural Uranium Dioxide.

There are three possible routes from Los Alamos to Chalk River:

One would cross the border at Sarnia and come east along Highway 401, turning north at Belleville toward Pembroke.

Another would come through Watertown, New York, cross the St. Lawrence River at the Ivy Lea Bridge, then turn east to Brockville and north through Smiths Falls, Carleton Place, Almonte and Arnprior on the way to Chalk River.

The third would cross into Canada in Manitoba and travel north of Lake Superior on the Trans-Canada Highway.

Having recently driven many of these routes in both an RV and small car, I can make several observations with certainty based on my personal experiences in Canada and the midwestern United States:

1. Canada's roadways are not up to the safety and design standards that Americans take for granted: There were literally miles of vehicles following each other at high speed and close intervals through winding hills without passing lanes or even a place to pull off the highway. Highways are being upgraded, but some areas are still without travel services.

2. There are environmental and ecological considerations that Americans don't even contemplate: Traffic along the Trans-Canada Highway frequently stops during night time hours due to the danger of hitting a moose.

3. Incidents of "Road Rage" have become so frequent in Ontario that new - mandatory - programs have been linked to traffic enforcement efforts along many of the routes identified for MOX Fuel shipments.

Even though it's AECL policy not to say publicly which route it will use, or when the shipment will come through, it is important that local emergency planners along the route be notified. Municipal officials in Lanark County, Smiths Falls and Carleton Place -- all on one of the possible shipping routes -- said they didn't know about the shipment.

While this secrecy may hold true for the initial test run, PSRA seriously doubts that the increased security necessary for large MOX Fuel shipments will remain unnoticed by citizens who live in farming and natural resources areas along these routes.

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Comment Documents and Responses—Oregon

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2. AECL:

Robert Gadsby is the Program Director of AECL's MOX Fuel project. As such, he and his team have visited sites in the United States and Russia in an effort to facilitate using AECL's CANDU Reactors to dispose of Surplus Weapons Plutonium.

Mr. Gadsby and I began our communication via e-mail on June 16, 1998 and continued our communication via e-mail and telephone calls. At first, Mr. Gadsby's primary object appeared to be to determine why PSRA was interested in AECL's CANDU design and who would receive our report.

Although I had requested only general information in my first e-mail to Mr. Gadsby's office, I had to follow-up that request with specific quotes from the NAS Report to convince Mr. Gadsby that I had read the report and was following up on the NAS Report's findings. These specific quotations from the NAS questions are included below for reference:

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[FROM 06/17/1998 E-MAIL: PSRA to AECL]

Wednesday; 17 June 1998
 Robert,

Yes, I've already made arrangements with Ontario Hydro for my visit at Bruce NPD, but I was hoping that I would be able to get some general information about the CANDU design before I visited their facility.

I've been dealing with Catherine Williams at Bruce, and she sent me some very general information. I then contacted AECB who referred me to AECL as the manufacturer of the CANDU reactor.

I believe my visit to Bruce would be more productive if I had a better understanding of the points listed below. This would allow me to focus on site specific training and operational history during my visit at Bruce.

To that end, I still would like to visit AECL's offices to get a better understanding of the CANDU reactor: Is there anyone else in the office who could discuss the CANDU's "non-MOX" operation as it is currently fueled at Bruce? It seems that since 20 CANDUs are operating in Ontario - and that the AECB referred me to your offices - that I should be able to get general (non-MOX) information about the reactor's design and operational safety features from someone in Mississauga.

I'm sorry that it seems that we won't be able to meet on July 16th. As the Director of AECL's MOX Project, talking with you would have been the most productive way to approach this. Perhaps you could put together an "Information Kit" on the MOX Project for me to pick up while I'm in that area. I would then be able to review that information before I visit the Bruce facility, and I would be able to follow up on this area of research when I return to Portland.

In reviewing the National Academy of Sciences' documents on using the CANDU reactors at Bruce, they were very clear that the information stated in those documents: "The panel notes that for this option virtually all of the information made available to the panel was provided by the vendor, and had not yet been reviewed by DOE or other organizations." [page 144]

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The report then presents several pages of discussions on the advantages and/or disadvantages of using the CANDUs in that role. On page 151, the report included footnote 22:

"The panel was informed by representatives of the vendor that this figure was arrived at not by analysis designed to estimate the maximum plutonium loading that could be safely accommodated in CANDU reactors, but rather because this was the loading required to meet DOE's specified goal of consuming 100 tons of WPu (the potential combined excess stocks of the United States and Russia) in 25 years of operation, given the estimated capacity of the FMEF fabrication facility (Feinroth 1994). Additional studies should be pursued to determine the maximum safe plutonium loading; higher plutonium loadings would increase the rate of plutonium disposition and reduce the number of fuel bundles that would have to be fabricated, potentially lowering costs."

The report continues along several other threads, however the main reason for our interest here in the Northwestern United States is that the FMEF, cited above, is located at Hanford, and AECL apparently wants to use this facility. On page 152, the report cites "Fuel Fabrication: Like the United States, Canada has no MOX fuel fabrication capacity. Fabricating MOX fuel for CANDUs at the Hanford FMEF facility would be the most expeditious approach, with the same caveats as is the LWR case. The vendor has in fact examined fabrication of MOX fuel in the FMEF in considerable detail, and believes that large throughputs of CANDU MOX fuel (over 160 MTHM/yr) are possible, by taking advantage of additional floor space not used by the current MOX fabrication line in the facility (AECL 1994)."

Since much of the report on the CANDU option was based solely on AECL's preliminary information that had not been reviewed by USDOE or other agencies, we're interested in reviewing the updated findings. Although the majority of the workforce in the communities surrounding Hanford's FMEF is understandably in favor of pursuing the MOX option, it appears that the majority of the populations in the states surrounding that area have questions about the advisability of increasing FMEF production at a time when they had been informed by USDOE that FMEF's mission would be ending.

If I can report that AECL's latest research indicates that the CANDU reactor can use a higher level of MOX fuel than was stated in the NAS report, then it could be assumed that FMEF operations could be shortened by several years. If we can pass the questions of how to contain potential FMEF site contamination and transportation - security issues there appears to be a better probability for agreement about using FMEF in that new role.

I believe that most persons, regardless of how they feel on the use of MOX fuel, agree that MOX-fueled reactors will be a part of our future. The President has declared this will be done, the industry is widely in favor of it, and most persons don't want to waste a "product" that they already have paid for and can provide future energy needs.

While the general public in the Northwestern United States may not be in favor of using FMEF for a 25 year program for LWRs in the U.S., they may well reverse that opposition if they understand that the plutonium was being sent out of the country for use in a "safe" reactor.

Based on my preliminary understanding of the CANDU design that would be used at Bruce to contribute to this project, CANDU appears to be a logical choice for the disposition for WPu, however I still cannot give a final recommendation to our states until we have information that is more recent than the NAS report that is commonly cited in this discussion.

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I also have reviewed AECEB's 1997 summary regarding the use of MOX fuel in CANDU reactors and the associated issues. I think you'll agree that the project is feasible from a purely engineering standpoint, and that the CANDU would be a better platform than would a LWR. These factors appear to be strongly in favor of the CANDU, and I'd like to update the information we currently have.

As to my original request, I would appreciate any information you could provide on the following topics:

1. A general overview of the CANDU 's safety and control features as it is currently operating (non-MOX mode);
2. Discuss how a MOX-fuel core loading would modify those operating characteristics; and,
3. Better understand what design modifications might be required to accommodate the use of MOX fuel.

I will be in Mississauga on 16 July 1998 and would like to visit AECL's offices to talk with someone on the general characteristics of a CANDU reactor operating in a "standard" (non-MOX) mode. I also would appreciate any information you are able to provide to update the NAS's 1995 report. I realize that you will not be personally available to meet with me on July 16th, however I sincerely hope that someone can provide me with the above information so I have a better understanding of the CANDU platform before I visit the Bruce NPD on the following day.

Thanks for your assistance in this matter. I will be leaving on a family vacation and research trip next week, so I'd greatly appreciate any help you can provide via e-mail or telephone. As far as receiving printed information, I'd like to have the opportunity to review it before visiting the Bruce facility, so I would want to personally collect that on July 18th when I'll be in Mississauga for other meetings.

PSRA's report is due in mid-August, and I hope to be able to report that AECL has provided us with the information our states need to make an informed decision about the use of specific facilities at the Hanford Reservation.

I hope to meet one of your co-workers on July 17th.

Sincerely,

W. P. (Bill) Mead, Director
 Public Safety Resources Agency
 P. O. Box 724
 Portland, OR 97207-0724

=====
 Following these specific questions, Mr. Gadsby stated that the U.S. Department of Energy had funded at least one additional (subsequent) study that showed that MOx Fuel was suitable for use in AECL's CANDU Reactors. When I requested a copy of that study's findings, Mr. Gadsby stated that it was "AECL's proprietary information" and that it was not to be released.

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MD236-6

Parallex EA

This comment is addressed in responses MD236-3 and MD236-5.

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Instead, Mr. Gadsby sent me a copy of a general talk he had presented to a Japanese pro-MOX forum. Mr. Gadsby's latest information was non-technical and did not answer many of the specific questions I had asked, so I clearly restated my request for information:

[FROM 06/17/1998 E-MAIL: PSRA to AECL]

Wednesday; 17 June 1998
Robert,

Thanks for your reply to this morning's e-mail. I have reviewed the file you attached, and it appears that the CANDU reactor would be a better platform for this project than would a LWR of the type we commonly use in the United States. ...

Based on your presentation, it initially appears that a CANDU program would have several benefits over a siting within the United States. Primary among these are (1) the WPU would truly be able to achieve the Spent Fuel Standard, (2) the length of time for the reduction program could be shortened if the CANDUs were allowed to operate as you described in your report, (3) the CANDU's design would not require making physical changes to its core, (4) AECB already has stated that it would provide a level of physical security equivalent to USDOE's to safeguard the fuel while within Canada, and (5) that the spent fuel would remain in Canada instead of being returned to the United States.

These are all points that the average citizen would likely accept, however most of the information we've received to date was not clear on those points. Given that, you can understand why many of them have had reservations about the MOX program.

This is only my personal opinion, but based on several years of work in both the business and the area, I still believe additional information would be needed to allay the doubts of several persuasive organizations who have political weight in the decision-making process: The fact is that the President made a decision to pursue a dual-track disposal option and it will happen; the reality is that solid technical arguments must be presented to overcome political opposition that may be based on what appears to be faulty information that we have received to date. ...

You asked about our clients: They are several voting members - a majority - of an official interstate waste board and several adjunct agencies who are working on site remediation issues at the Hanford Reservation. ...

This has led me to perceive that the opinion of a majority of the citizens in the Northwestern United States is opposed to a MOX-fuel option; particularly if Hanford's FMEF and/or FFTF facilities are involved in that process. USDOE has just announced that public hearings and comments will be accepted on these proposals until approximately mid-August. PSRA has been asked to have our report ready in time to allow the clients to review those findings, and with sufficient time for them to then submit comments prior to that deadline.

I had been aware of several other studies similar to the ones you've mentioned, however most of the published studies deal with LWRs, not CANDUs. Is there any non-proprietary information you could allow me to review? Also, is there anyone whom I could contact about the general _non-MOX_ operations of a CANDU reactor?

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AECL has been identified as the manufacturer of the CANDU reactor, yet the general public really doesn't know much about how it operates. I'm not asking to be allowed to rummage through AECL's corporate secrets; only that I be allowed to get general (non-MOX) information about the reactor's design and operational safety features from someone in Mississauga.

To repeat what I've requested in my previous e-mails: I still would like to visit AECL's offices to get a better understanding of the CANDU reactor. Is there anyone in the office who could discuss the CANDU's "non-MOX" operation as it is currently fueled at Bruce? It seems that since 20 CANDUs are operating in Ontario - and that the AECL referred me to your offices - that this is a reasonable question.

Our concern here in the Northwestern United States is based on the potential long-term role as a MOX-fuel fabricator, with the possible (and currently, proven) diversion of funding by USDOE from the remediation of contaminated sites at the Hanford Reservation.

To this end, Hanford's FMEF directly enters into the equation: MOX will be a fact of life, therefore Hanford will play a central role in achieving those goals. If CANDU can speed up that process while reducing the time needed, then the cleanup of existing sites could be accomplished sooner than if LWRs in the United States were used to achieve those goals.

My gut feeling is that our clients - and the majority of the persons in the Northwestern United States who are not associated with the Tri-Cities workforce - will accept virtually any solution that will result in a reduction of the contamination at Hanford while concurrently relieving them of the potential creation of more irradiated spent fuel. Thus, if CANDUs can do this work and Canada is willing to retain possession of the spent fuel, then that is a major "selling" point that should be included in our report.

6

As I stated to you in my previous message: While the general public in the Northwestern United States may not be in favor of using FMEF for a 25 year program for LWRs in the U.S., they may well reverse that opposition if they understand that the plutonium was being sent out of the country for use in a "safe" reactor.

As to my original request, it appears that we've been successful in answering most of my questions, however I would appreciate any information you could provide on the following two remaining points:

1. A general overview of the CANDU 's safety and control features as it is currently operating (non-MOX mode); and,
2. Discuss how a MOX-fuel core loading would modify those operating characteristics.

I will be in Mississauga on 16 July 1998 and would like to visit AECL's offices to talk with someone on the general characteristics of a CANDU reactor operating in a "standard" (non-MOX) mode. I believe I now have a better understanding of the design characteristics of the platform, but I would like to understand the actual operational and safety differences between CANDUs and the LWRs with which I am more familiar.

Thanks, again, for your assistance in this matter. You've taken a lot of time to respond to my questions, and I very much appreciate the supplemental information you've provided. If you have any information of a "general" (non-MOX-fueled core) nature for CANDU reactors, I really would like to be able to review that material before visiting the Bruce NPD facility.

MD236

PUBLIC SAFETY RESOURCES AGENCY

W.P. MEAD

PAGE 11 of 15

I will be leaving Portland early next week, and probably would not receive that information before I leave. However, as I will be staying in the Mississauga - Port Credit area during early July, it would be easier for me to collect any written information during that time period.

To summarize what I said earlier today: PSRA's report is due in mid-August, and I hope to be able to report that AECL has provided us with the information our states need to make an informed decision about the use of specific facilities at the Hanford Reservation.

I hope to meet one of your co-workers or at least be able to pick up the requested AECL information on July 17th.

Sincerely,

W. P. (Bill) Mead, Director
Public Safety Resources Agency
P. O. Box 724
Portland, OR 97207-0724

=====

Mr. Gadsby returned my telephone call and we spoke on these topics for approximately twenty-five minutes. He stated that although he and his team would be in Russia during the time of my visit (I was staying just a few miles away from AECL's office complex in Mississauga, Ontario), that he would arrange for someone to talk with me and would prepare an information package for me to receive during my visit on July 16, 1998.

On the morning of July 16th I telephoned Mr. Gadsby's office at AECL's office complex and was advised (1) that they had no package waiting for me; (2) that no one had been scheduled to discuss the questions Mr. Gadsby had agreed to respond to; and (3) that although Mr. Gadsby had gone to Russia, that no one had been designated to act on Mr. Gadsby's behalf during his absence.

In the end, it appears that although Mr. Gadsby stated that AECL had new findings that supported the ability of CANDU Reactors to safely operate on MOx fuel, the facts are that he admitted that this fuel had not been used in CANDU Reactors of that design, and he was not able to produce the documentation to substantiate his claims on behalf of AECL's unsupported statements in the 1995 NAS Report.

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3. Ontario Hydro:

Although it is not intentionally deceptive, the name "Ontario Hydro" is somewhat misleading when first viewed by citizens of the United States.

Most persons who live in the Northwestern United States associate the word "Hydro" as referring to a dam that produces electricity. In fact, when I first began making reservations for the Canadian portion of this summer's research trip, I thought the managers of the RV parks were asking if we wanted to connect to a water faucet.

PUBLIC SAFETY RESOURCES AGENCY
W.P. MEAD
PAGE 12 of 15

"Hydro" is the Canadian term for "electrical power." While this may have been accurate fifty years ago, the underlying source of that electricity has changed from "hydro" to "nuclear": Ontario Hydro now produces about 60% of its electricity in twenty CANDU Reactors. Of these, eight are sited at the Bruce Nuclear Power Development ("Bruce NPD") facility. Of those eight, four have been identified by the U. S. DOE as being considered for using MOx Fuel from the joint U.S.-Russian agreement to dispose of Surplus Weapons Plutonium.

In reviewing Ontario Hydro's operations and safety history before visiting their facility, I discovered (1) that Ontario Hydro had received several warnings from AECB about safety conditions at their nuclear facilities; and (2) their senior management had been reorganized due to the "fallout" from those critical reviews.

I later learned that in an effort to set a record for operating one of the CANDU Reactors at the Bruce NPD, that senior management had decided to intentionally by-pass taking the reactor off-line for scheduled maintenance. This decision resulted in excessive wear on the reactor's physical plant and kept the reactor shut down and off-line for an extended period of time. As I stated in my oral comments at Portland's Public Meeting in August, this is not the type of behavior that should be attempted with this technology.

As part of our research, PSRA was authorized to review technical documents for the eight CANDU Reactors at Ontario Hydro's Bruce NPD. The four reactors in Unit A differed from the four reactors in Unit B in several important design and safety aspects.

At the time of our pre-tour and on-site research the only CANDU Reactors that had been identified for the MOx Fuel role at Bruce NPD were the newer models of Unit B. These four reactors have a total net rating of 3,440MW(e) and produced their first electricity during the years of 1984-1987. However, in late August we received reports from Canadian sources that the older reactors of Unit A were the CANDUs under consideration for this project.

Unit A's four reactors have a total net rating of 3,076MW(e) and produced their first electricity during the years of 1976-1978. This requires clarification and, if true, a re-evaluation of those reactors on the basis of their design, safety and longevity.

The U.S. Department of Energy should clearly identify the specific reactors that are currently being considered for the MOx Fuel disposal option. If reactors in foreign nations are being considered, the Department should also clearly identify those specific reactors and verify that list with the governing agencies of those nations.

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ADDITIONAL CONCERNS

1. Access to all USDOE/AECL CANDU Studies:

According to Mr. Gadsby, AECL's MOx Project Director, the United States Department of Energy funded the subsequent AECL study that he alleges proved the CANDU Reactor was a satisfactory platform for the MOx Fuel disposal option. Mr. Gadsby also stated that this information was proprietary and was not to be released.

MD236

PSRA questions why - if this was a true statement - the citizens of the United States funded what can essentially be considered an R&D project for a foreign corporation but cannot review the results of those studies.

The U. S. Department of Energy should release the entire text of these reports, including their references and attachments, for review by the general public and peer review of technical findings that would enable replication of those findings by independent researchers.

2. Disposition of Spent MOX Fuel used in CANDU Reactors:

PSRA was informed that spent MOX Fuel from the initial test at Chalk River, Ontario would remain in Canada for disposal in a geologic repository. As yet, no such repository exists for Canadian spent fuel. If MOX Fuel is to be used in Canada's CANDU Reactors, then it also should remain in Canada after irradiation.

Canada's two major players in the MOX Fuel disposal option are AECL and Ontario Hydro. During our research, both parties stated their contributions were beneficial to world peace by helping to eliminate the available supply of Weapons Plutonium. Their altruism should be ensured by a binding agreement stipulating that once the MOX Fuel leaves the United States that it will never return to our country.

Mr. Gadsby stated that the Russians trusted Canada to ensure that Weapons Plutonium used in the MOX Project would not find its way back into nuclear weapons. It logically seems that the only way this could be achieved would be to have the final repository for all spent MOX Fuel to be sited within Canada and be monitored by other neutral countries and organizations such as the IAEA.

If Canada is serious about wanting to "help" ensure the goals of removing this material from circulation, then it should also accept it as the end-user and be willing to co-exist with MOX Fuel from the time it enters the border into Canada as un-irradiated plutonium, and it should safeguard the irradiated spent fuel at a level equivalent to those required by the U. S. Department of Energy.

The U. S. Department of Energy should require that Canada assume perpetual control of MOX Fuel at the time that fuel enters Canada, and that Canada's safeguards be equivalent to those established by USDOE for transportation and storage within the United States. Furthermore, USDOE should not be permitted to accept spent MOX Fuel from any other country, including Russia or other participants in present or future agreements to dispose of Weapons Plutonium of non-U. S. origin.

3. Clarification/Identification of Reactors proposed for using MOX Fuel:

PSRA has recently received reports that several owners and/or operators of reactors under consideration for the MOX Fuel disposal option have withdrawn from participation. In many instances, other owner/operators have been substituted to replace the original owners, but those operators have stated that they did so only to allow one or more of the consortiums to remain in the selection process.

If the withdrawal of a component disqualifies a consortium from the selection process, then it also indicates that the owners of that component realized that their participation in the MOX Fuel program was ill-advised.

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MD236

MD236-7

Parallex EA

Spent fuel generated by the Parallex Project would be managed in Canada by the Canadian spent fuel program. The remainder of this comment is addressed in response MD236-3.

MD236-8

MOX RFP

DOE acknowledges the commentor's concern about the procurement process. It is common business practice for potential bidders to pursue expressions of interest among qualified potential teaming partners, and as part of that process, determine which are in fact qualified to bid on the scope of work before settling on a team. It is not unusual, especially in large procurements, for teams to undergo several iterations before they are finalized. DOE will not speculate as to the intentions of any members of any responding teams, or others that may have decided in the end not to respond to the RFP. However, DOE agrees that a contract should only be awarded to a team meeting substantially all the requirements of the solicitation. DOE awarded the contract for the MOX fuel fabrication and irradiation services to a consortium that met all required elements.

PUBLIC SAFETY RESOURCES AGENCY
W.P. MEAD
PAGE 14 of 15

By allowing "front" reactors to join a consortium merely to include their name on a form so another reactor owner can later join the consortium violates the intention of the process. This demonstrates a lack of good faith by the parties of those consortiums and also on the U. S. Department of Energy for allowing this farce to continue.

PSRA calls on the U. S. Department of Energy to disqualify any consortium that does not include all components that were originally specified by USDOE for participation in that selection process.

8

4. Safeguards, Security, Operational, Environmental, Health and Safety Concerns that require further in-depth evaluation.

It appears that the United States Government still believes that the only time radiation crosses international boundaries is when a reactor is accidentally destroyed at Chernobyl. This phenomenon was repeatedly brought to our attention not only throughout our studies in the United States, but also by environmental remediation agencies during our 1998 research tour in Canada.

While the world-wide radiologic contamination from that incident received global attention and was thoroughly documented by the United States, it is ironic that fallout from nuclear weapons tests originating in the United States - that were monitored throughout the U. S. and showed unusually high radiation levels that extended right to our border with Canada - abruptly ended as the radiation plumes entered Canada.

5

The U. S. Department of Energy should require all Canadian parties to the MOx Fuel disposal option to comply with USDOE's standards of Safeguards, Security, Operational, Environmental, Health and Safety protection, and it should additionally conduct an on-going monitoring program of all aspects of foreign participation.

All reports, including radiologic monitoring of foreign facilities and transportation routes should be made available to the public via USDOE's WWW site. In cases where foreign regulatory agencies such as Canada's AECB have initiated action against a participant (such as Ontario Hydro), USDOE should retain the right to immediately halt further participation by those parties until the issues have been satisfactorily resolved.

5. Paying the financial costs of the MOx Fuel disposal program.

During my discussions with AECL's Mr. Gadsby, he stated that AECL would require funding by the United States to proceed with further implementation of the MOx Fuel program.

Also implied, but not specifically stated, was the indication that the U. S. would have to provide a MOx Fuel fabrication facility because no such facility exists in Canada. Russia also has no facilities to produce MOx Fuel, and has stated that it will require several billion dollars of assistance to move forward with its plans to use MOx Fuel in its reactors.

9

PSRA opposes any contribution of United States' funding to further a MOx Fuel disposal option. We believe better disposal alternatives exist, and that construction of a MOx Fuel fabrication facility would contribute to a dangerous proliferation of MOx Fuel use.

MD236

MD236-9

MOX Approach

Plutonium is regarded by most countries except the United States as a valuable resource. U.S. policy dating back to the Ford Administration has prohibited the commercial, chemical reprocessing and separation of plutonium from spent nuclear fuel. Irrespective of this, the United States will maintain its existing commitments regarding the use of plutonium in civilian nuclear programs in Western Europe and Japan. Russia may choose to reprocess its spent fuel and reuse the plutonium. It will be the responsibility of IAEA to monitor this activity and ensure that the material remains committed to civilian use.

The remainder of this comment is addressed in responses MD236-1 and MD236-3.

PUBLIC SAFETY RESOURCES AGENCY

W.P. MEAD

PAGE 15 of 15

If Canada wants to use MOX Fuel in its CANDU Reactors as a part of this program, it should finance that construction and infrastructure entirely as a sovereign (internal) national undertaking.

Also, the United States should not assist Russia in converting to a MOX Fuel option. If Russia is determined that the use of MOX Fuel is in its best national interest, then it has the responsibility to pay for those programs.

The U.S. and Russian disposal options do not truly require direct linkage. Russia views Plutonium as a national asset; PSRA views Plutonium as a worldwide threat and cannot support its use per the current proposals.

The United States should not contribute to additional proliferation in any manner.

9

CONCLUSION

The Public Safety Resources Agency recommends against the use of Surplus Weapons Plutonium in Mixed Oxide Fuel. PSRA strongly urges that Surplus Weapons Plutonium of all origins/nations be disposed of by other alternative technologies such as vitrification within mixed "High-Level" wastes, and that the disposal process not be linked to the demands made by the Russian government.

The United States is a sovereign nation that still maintains a significant nuclear and conventional advantage over potential non-terrorist threats, and can readily afford to unilaterally dispose of its Surplus Weapons Plutonium without linkage to another nations' programs.

1


W. P. Mead, Director
Public Safety Resources Agency
P. O. Box 724
Portland, OR 97207-0724

SUPPLEMENTAL NOTE

In the interest of being fair while researching this report, PSRA attempted to contact participants on both sides of the nuclear issues. Our initial contact attempts were made via e-mail and telephone calls.

Several persons in Ontario Hydro returned our telephone and e-mails, and subsequently allowed us to review documents such as the Bruce NPD Safety Report as a part of our on-site research. Although we were not permitted to photocopy or photograph Ontario Hydro's documents, they did provide a quiet room, candid talk, several technical volumes about their facilities, and permitted us to make written notes of that material.

We found AECL's Mr. Gadsby to be extremely well-versed not only in AECL's project, but also in the political realities of both Russia and the United States. During our telephone conversation Mr. Gadsby stated that "AECL always understood that CANDU Reactors would have to share the MOX program because of political and financial interests of the nuclear power reactor operators in the United States."

PSRA also tried to contact "anti-nuke" organizations. We were not successful, therefore the information presented above is based on the research developed from the cited resources. It is telling that even without the input from anti-nuclear activists, that the information that is currently available has overwhelmingly convinced us that the use of MOX Fuel in CANDU Reactors is not the best disposal option.

MD236

US DOE needs to hear your voice NOW!

1. Should Clean Up be the sole mission at Hanford?
 Yes No 1
2. Should the United States Government maintain its longstanding policy against the use of weapons Plutonium to fuel civilian nuclear reactors?
 Yes No 2
3. Which alternative would you prefer to see the US Department of Energy pursue:
 Immobilization (encasement of plutonium in glass-like tombs) ← THIS, BUT NEITHER
 Or IS PERMANENTLY
 The MOX plan (burning plutonium to fabricate fuel for use in a civilian nuclear reactor)? ACCEPTABLE 3
4. Should Plutonium, to be used for processing and fabrication of MOX fuel, be imported to the Hanford site along the Columbia River?
 Yes No 4
5. How concerned are you about the transportation of Plutonium through the Northwest?
 Not concerned slightly concerned very concerned completely opposed
 B. How concerned are you about the transport through the Northwest of fuel containing weapons Plutonium?
 Not concerned Slightly concerned Very concerned Completely opposed 5
6. Should commercial nuclear power plants be allowed to run on MOX fuel containing weapons Plutonium?
 Yes No
 B. Should they be subsidized with tax dollars to do so?
 Yes No 6
7. Should MOX fuel containing weapons Plutonium be used to restart the FFTF reactor at Hanford to produce Tritium for nuclear bombs?
 Yes No

Name DAVID REIF
 Address 5405 NW Mallory Portland OR 97211
 Phone 331-3910

Please return this to:
 Hanford Action
 25-6 NW 23rd Place #406
 Portland, OR 97214
 (503) 235-2531

MD291

MD291-1

DOE Policy

DOE believes that Hanford's efforts should remain focused on its current high-priority cleanup mission. The importance of cleanup at Hanford was taken into consideration in identifying preferred sites for surplus plutonium disposition activities. However, no decision has been made, and DOE will continue to consider Hanford for surplus plutonium disposition or other programs that are compatible with the Hanford mission.

MD291-2

Nonproliferation

U.S. policy dating back to the Ford Administration has prohibited the commercial, chemical reprocessing and separation of plutonium from spent nuclear fuel. The use of U.S. surplus plutonium in existing domestic, commercial reactors does not involve reprocessing (reprocessing is a chemical separation of uranium, transuranic elements [including plutonium], and fission products from spent reactor fuel and the reuse of the plutonium and uranium to produce new fresh fuel). The proposed use of MOX fuel is consistent with the U.S. nonproliferation policy and would ensure that plutonium which was produced for nuclear weapons and subsequently declared excess to national security needs is never again used for nuclear weapons. Consistent with the U.S. policy of discouraging the civilian use of plutonium, a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program.

MD291-3

Alternatives

DOE has identified as its preferred alternative the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of

surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

Under the hybrid approach, approximately 33 t (36 tons) of clean plutonium metal and oxides would be used to fabricate MOX fuel, which would be irradiated in domestic, commercial reactors. The remaining 17 t (19 tons) of surplus, low-purity, nonpit plutonium is not suitable for fabrication into MOX fuel because of the complexity, timing, and cost that would be involved in purifying those plutonium materials. Therefore, fabricating all 50 t (55 tons) of surplus plutonium into MOX fuel is not a reasonable alternative and is not analyzed; however, immobilizing all of the surplus plutonium is analyzed. Given the variability in purity of the surplus plutonium to be dispositioned, some of the plutonium currently considered for MOX fuel fabrication may also need to be immobilized. The incremental impacts that would be associated with a small shift in materials throughput are discussed in Section 4.30.

MD291-4

Transportation

The shipment of nuclear material (e.g., depleted uranium) using commercial carriers would be the subject of detailed transportation plans in which routes and specific processing locations would be discussed. These plans are coordinated with State, tribal, and local officials. The shipment of waste would be in accordance with the decisions reached on the *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste* (DOE/EIS-0200-F, May 1997) and the *WIPP Disposal Phase Final Supplemental EIS* (DOE/EIS-0026-S-2, September 1997). The transportation of special nuclear materials is the subject of detailed planning with DOE's Transportation Safeguards Division. The dates and times that specific transportation routes would be used for special nuclear materials are classified information; however, the number of shipments that would be required, by location, has been included in this SPD EIS. Additional details are provided in *Fissile Materials Disposition Program SST/SGT Transportation Estimation* (SAND98-8244, June 1998), which is available on the MD Web site at <http://www.doe-md.com>.

MD291-5**MOX Approach**

Use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. The MOX facility would produce nuclear fuel that would displace LEU fuel that utilities would have otherwise purchased. If the effective value of the MOX fuel exceeds the cost of the LEU fuel that it displaced, then the contract provides that money would be paid back to the U.S. Government by DCS based on a formula included in the DCS contract. The commercial reactors selected for the MOX approach include only those reactors whose operational life is expected to last beyond the life of the surplus plutonium disposition program.

MD291-6**DOE Policy**

As discussed in Section 1.7.4, Appendix D was deleted because none of the proposals to restart FFTF currently consider the use of surplus plutonium as a fuel source. In December 1998, the Secretary of Energy decided that FFTF would not play a role in producing tritium.

Additional Comments:

~~Given that the military is responsible for the weapons-grade plutonium or the dollars paid for the production of waste material with no projected technology for safe disposal, I feel it essential that the entity responsible for that production (both commercial & government) pay for the cleanup without further impact on the taxpayer. This, to me, means existing military budget funds. It can be used for research or development of disposal means that truly meet standards for environmental or human safety. Given that private companies have profited from war prof. subsidies, they don't bear the primary burden of paying for clean mistakes, even at the expense of other operations.~~

In short, existing profits & budget of the commercial/military nuclear energy experiment are the only funds properly spent to correct the waste disposal problem in a prompt & environmentally safe fashion.

It was seriously stupid to play with this material in any way in the first place. This was all predictable from the onset & we have hurt our health & our planet severely at Chernobyl, 3 Mile, Rocky Flats, Ashford, etc. Why play again with this ignorant MOX program? Shut it down, get rid of it, don't make the victims pay twice.

MD291

MD291-7

Cost

DOE acknowledges the commentor's concern regarding funding responsibility for weapons-grade plutonium disposition and cleanup, and opposition to the MOX approach. Funding for the U.S. surplus plutonium disposition program is allocated annually by Congress, which is committed to the goals and objectives of the program. However, funding policies are beyond the scope of this SPD EIS.

The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. To accomplish this goal, DOE has identified as its preferred alternative the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.



United States
Department
of Energy

Comment Form

NAME: (Optional) Courtney Scott
ADDRESS: 2639 NW Clackamas, Portland OR 97232
TELEPHONE: (503) 288-6142
E-MAIL: scottcurk@teleport.com

I am opposed to the use of MOX fuel for nuclear energy or other commercial plutonium purposes. It is unfortunate that nuclear weapons have proliferated in the country. Surely the enormous problems of cleaning up the waste should take as a lesson what not to do. The further creation of weapons of mass destruction. I recommend immobilization ^{and vitrification} as the best solution I have heard so far. Profit should not play a part in the decision whatsoever. If nuclear power corporations wish to use MOX fuel, at the very least they should pay for it to take the burden off the taxpayer. I doubt they would agree to that.

If you are unsure about responding to public opinion please consider this as your current plan of action for disposal of surplus plutonium. NO MOX.

ORD11

ORD11-1

Alternatives

DOE acknowledges the commentator's opposition to the MOX approach to surplus plutonium disposition. The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. Converting the surplus plutonium into MOX fuel and using it in domestic, commercial reactors is an effective way to accomplish this. To this end, surplus plutonium would be subject to stringent control, and the MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation would be a once-through cycle with no reprocessing.

DOE has identified as its preferred alternative the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

Surplus Plutonium Disposition Final Environmental Impact Statement

My name is Nick Spurgeon and I live in Portland, Oregon, and I'm leaving a comment about the Hanford nuclear plant and the proposed plans to use the plutonium from warheads for nuclear energy. I think that's insanity. I think the Department of Energy should put its energy into exploring alternative energy sources like solar. Stop spending our money on poison that's going to kill us. I'm really sick of it and I'm really disgusted with it. Thank you.

1

PD038

PD038-1

Other

DOE acknowledges the commentor's opposition to the MOX approach and support of alternative energy sources. Use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors.

TRACY, NANCY LOU
PAGE 1 OF 1

August 18, 1998

Bill Richardson
Secretary of Energy
100 Independence Ave.
Washington, D.C. 20585

Dear Secretary Richardson,

This evening concerned citizens meet with DOE officials to discuss destruction of our nation's surplus weapons plutonium. If the object we seek is to destroy this deadliest of all nuclear elements, we'll turn it into glass. We need to be clear that we have the same objective in mind. The choices under discussion do not bear this out.

1

The one: to immobilize our entire supply into glass logs. The other: to put 2/3s of this plutonium into MOX fuel for commercial nuclear reactors, a dangerous breach in separation of military weapons production and commercial reactors.

The MOX option is little more than a transit system for moving plutonium - with all of its attendant risks to workers and the public - 100% of plutonium into MOX fuel, 99% plutonium remaining as waste, 1% destroyed.

Because MOX appears to be the DOE's choice, it seems that destruction of plutonium is not its objective. It is hard to understand the DOE's continued advocacy for nuclear power with its nightmare history of accidents. In a 5-city area around the Pilgrim nuclear power plant in Mass., following a silent, invisible accidental release of radioactive gases, the leukemia rate among children is 4 times the national average. To throw a load of plutonium into the fuel of commercial reactors and hope for some kind of safe retrieval of the 99% remaining is insanity.

2

If MOX is to be used as a means of stockpiling plutonium for future weapons production, should the case be made that preparing for war is the best means for insuring a lasting peace, then that is what we should be talking about.

3

Why does the DOE continue its single-minded advocacy of nuclear power with its accident-prone history and legacy of overfilled, leaking, explosive-hot waste sites of which Hanford is a prime example? It's time we stopped messing up lives of future generations.

I have a dream that one day in my lifetime the USDCE will advocate for safe, clean, efficient alternative energy sources. What a joyous use of our tax dollars that will be!

Sincerely,
Nancy Lou Tracy

Sub
731
209

copies to senators Smith and Wicker

FD203

FD203-1

Alternatives

DOE acknowledges the commentor's opposition to the MOX approach. DOE has identified as its preferred alternative the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again. Consistent with the U.S. policy of discouraging the civilian use of plutonium, a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program.

FD203-2

MOX Approach

The DOE acknowledges the commentor's opposition to nuclear power. The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. Converting the surplus plutonium into MOX fuel and using it in domestic, commercial reactors is an effective way to accomplish this. The objective of reactor irradiation is plutonium disposition, not power generation. Section 4.28 was revised to discuss the potential environmental impacts of operating Catawba, McGuire, and North Anna, the reactors that would use the MOX fuel.

FD203-3

DOE Policy

The purpose of the MOX approach is to convert surplus plutonium to a form that meets the Spent Fuel Standard, thereby providing evidence of irreversible disarmament and setting a model for proliferation resistance. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors.

The U.S. Department of Energy needs to hear your voice NOW!
What do you think about a new era of nuclear proliferation?

Hanford Action of Oregon will forward this questionnaire to USDOE. Please circle your responses.

1. Should clean-up be the sole mission at Hanford?
 Yes No | 1
2. Should the United States government maintain its longstanding policy opposing the use of weapons plutonium to fuel civilian nuclear reactors?
 Yes No | 2
3. Should commercial nuclear reactors be allowed to run on MOX fuel containing weapons-grade plutonium?
 Yes No | 3
- 3a. Should they be subsidized with tax dollars to do so?
 Yes No | 3
4. Which alternative would you prefer to see the U.S. Department of Energy pursue:
Immobilization (encasement of plutonium in glass logs or in casks for entombment) | 4
OR
The MOX plan (processing plutonium into fuel for use in civilian nuclear reactors).
5. How concerned are you about the transportation of plutonium through the Northwest to Hanford?
Not concerned Slightly Concerned Very Concerned Completely opposed | 5
6. How concerned are you about transporting plutonium MOX fuel through the Northwest to Hanford?
Not concerned Slightly Concerned Very Concerned Completely opposed | 5
7. Should MOX fuel be used to restart the Fast Flux Test Facility (FFTF), a risky liquid-metal reactor at Hanford, to produce tritium for nuclear bombs?
 Yes No | 6

Name Nancy Lou Tracy
Address 7310 SW Pine St. Portland OR 97223
Phone 503-246-6190 e-mail _____

Please return to Hanford Action of Oregon by September 10, 1998.

Hanford Action of Oregon
25-6NW 23rd PL #406 tel: (503) 235-2924 fax: (503) 736-0097 e-mail: hannie@aol.com

With what I have twice read is a 400 billion price tag for cleaning up Hanford - we must get on with the job - however! overwhelming the odds of complete success. Those businesses which want | 7

MD298

MD298-1

DOE Policy

DOE believes that Hanford's efforts should remain focused on its current high-priority cleanup mission. The importance of cleanup at Hanford was taken into consideration in identifying preferred sites for surplus plutonium disposition activities. However, no decision has been made, and DOE will continue to consider Hanford for surplus plutonium disposition or other programs that are compatible with the Hanford mission.

MD298-2

Nonproliferation

U.S. policy dating back to the Ford Administration has prohibited the commercial, chemical reprocessing and separation of plutonium from spent nuclear fuel. The use of U.S. surplus plutonium in existing domestic, commercial reactors does not involve reprocessing (reprocessing is a chemical separation of uranium, transuranic elements [including plutonium], and fission products from spent reactor fuel and the reuse of the plutonium and uranium to produce new fresh fuel). The proposed use of MOX fuel is consistent with the U.S. nonproliferation policy and would ensure that plutonium which was produced for nuclear weapons and subsequently declared excess to national security needs is never again used for nuclear weapons. Consistent with the U.S. policy of discouraging the civilian use of plutonium, a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program.

MD298-3

MOX Approach

Use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. The MOX facility would produce nuclear fuel that would

displace LEU fuel that utilities would have otherwise purchased. If the effective value of the MOX fuel exceeds the cost of the LEU fuel that it displaced, then the contract provides that money would be paid back to the U.S. Government by DCS based on a formula included in the DCS contract. The commercial reactors selected for the MOX approach include only those reactors whose operational life is expected to last beyond the life of the surplus plutonium disposition program.

MD298-4

Alternatives

DOE has identified as its preferred alternative the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

Under the hybrid approach, approximately 33 t (36 tons) of clean plutonium metal and oxides would be used to fabricate MOX fuel, which would be irradiated in domestic, commercial reactors. The remaining 17 t (19 tons) of the surplus, low-purity, nonpit plutonium is not suitable for fabrication into MOX fuel because of the complexity, timing, and cost that would be involved in purifying those plutonium materials. Therefore, fabricating all 50 t (55 tons) of surplus plutonium into MOX fuel is not a reasonable alternative and is not analyzed; however, immobilizing all of the surplus plutonium is analyzed. Given the variability in purity of the surplus plutonium to be dispositioned, some of the plutonium currently considered for MOX fuel fabrication may also need to be immobilized. The incremental impacts that would be associated with a small shift in materials throughput are discussed in Section 4.30.

MD298-5

Transportation

The shipment of nuclear material (e.g., depleted uranium) using commercial carriers would be the subject of detailed transportation plans in which routes

and specific processing locations would be discussed. These plans are coordinated with State, tribal, and local officials. The shipment of waste would be in accordance with the decisions reached on the *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste* (DOE/EIS-0200-F, May 1997) and the *WIPP Disposal Phase Final Supplemental EIS* (DOE/EIS-0026-S-2, September 1997). The transportation of special nuclear materials is the subject of detailed planning with DOE's Transportation Safeguards Division. The dates and times that specific transportation routes would be used for special nuclear materials are classified information; however, the number of shipments that would be required, by location, has been included in this SPD EIS. Additional details are provided in *Fissile Materials Disposition Program SST/SGT Transportation Estimation* (SAND98-8244, June 1998), which is available on the MD Web site at <http://www.doe-md.com>.

MD298-6

DOE Policy

As discussed in Section 1.7.4, Appendix D was deleted because none of the proposals to restart FFTF currently consider the use of surplus plutonium as a fuel source. In December 1998, the Secretary of Energy decided that FFTF would not play a role in producing tritium.

to have a second run of profit from plutonium need to be told "no". To impose further risk to commerce and industry of the area is foolhardy. The Columbia River, for many centuries ahead, will not roll on clean, safe and productive as it has for eons past. It is long past time to put plutonium, incredible killer that it is, permanently out of commission. 7

MD298

MD298-7**DOE Policy**

As described in Section 4.26.1.2, surface water would not be used in the construction and operation of proposed surplus plutonium disposition facilities at Hanford. In addition, there would be no discharges of contaminated wastewater to the Columbia River. Therefore, no impacts on the Columbia River would be expected.

The remainder of this comment is addressed in response MD298-1.

Hi. My name is Lee Ann Ward and I live in Portland, Oregon, down river from Hanford and I strongly object to the Department of Energy trying to produce fuel or anything else at Hanford and would like to see it cleaned up and nothing more done there. It's destroyed our river and the environment around here and I am very, very much opposed to any further use of Hanford for any production of fuel. Please, just clean up the mess that is there and leave it alone. Thank you.

1

PD037

PD037-1

Alternatives

DOE acknowledges the commentor's opposition to siting the proposed surplus plutonium disposition facilities at Hanford. DOE believes that Hanford's efforts should remain focused on its current high-priority cleanup mission. The importance of cleanup at Hanford was taken into consideration in identifying preferred sites for surplus plutonium disposition activities. However, no decision has been made, and DOE will continue to consider Hanford for surplus plutonium disposition or other programs that are compatible with the Hanford mission.

1998-010168 Aug 31 P 1:59



United States
Department
of Energy

Comment Form

NAME: (Optional) Rayner Ward
ADDRESS: 2235 N. Alberta Portland, OR 97217
TELEPHONE: () _____
E-MAIL: Rayner1@juno.com

I would like to go on record as one who is against the MOX program in any form, & this is that the best occasion for disposition of all plutonium on the earth would be to vitrify it and load it on site, where it can be dealt with, not to be moved anywhere and above ground, one of the most turbulent problems of our time is the creation, use & proliferation of fissile materials of all kinds from the conventional nuclear waste generated thereby. Despite the known, well placed criticism of many modern technophiles, there is no viable solution to this "three" problem at present. Nuclear power in all its forms is responsible for massive pollution, global warming, widespread disease and death, the governmental, industrial, bureaucratic, bureaucratic attempts, not worth analyzing. Though I am thoughtful that, certainly, we will not have to face MOX at Hanford & am a fan of it in any way that we are with united states should face the specter of MOX. It is an inevitable & sure to be nuclear waste, from abroad for us to deal with. The transportation problem alone is an insurmountable, I am sure materials, onsite vitrification, hopefully (I don't want hold my breath) a new, enlightened future people will be able to solve the problem or until the half-life periods are over, in the case of plutonium, some 250,000 years.

Rayner Ward

P.S. I don't buy the "what if the Russians make double argument don't it time to stop trying to frighten people into going along with insane policies. The U.S. needs to set a good example, in, research and all use of fissile materials including nuclear fuel and medical isotopes.

MD164

MD164-1

Alternatives

DOE acknowledges the commentor's opposition to the MOX approach. DOE has identified as its preferred alternative the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

The surplus plutonium disposition program is limited exclusively to U.S. surplus plutonium and not to foreign plutonium. Transportation impacts of the MOX approach are summarized in Chapter 4 of Volume I and Appendix L. As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures or vehicle emissions are expected. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

Yes, hello my name is Mona Warner. I'm calling from Oregon and I would like to express my opposition to the MOX plan to use fuel for making energy. I really feel very strongly that this is a bad idea. It's a lot, it will cost a lot more, the disposition is close, it's a lot slower and it possesses a much greater possibility of proliferation of nuclear power and I really would like to encourage anyone who is in any position to stop the idea of the generation of this fuel. And I think we should have it in storage and put it away until we can figure it out, figure out what to do with it safely and so that it is not helping proliferate nuclear, what could be eventually nuclear war, who knows. But I would like and, and I would like to express that feeling. Thank you very much. Good-bye.

1

PD048

PD048-1

Alternatives

DOE acknowledges the commentor's opposition to the MOX approach. The use of MOX fuel in domestic, commercial reactors is not proposed in order to produce energy. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors.

The MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation would be a once-through cycle with no reprocessing. By working in parallel with Russia to reduce stockpiles of excess plutonium, the United States can reduce the chance that weapons-usable nuclear material could fall into the hands of terrorists or rogue states and help ensure that nuclear arms reductions will never be reversed. Converting the surplus plutonium to more proliferation-resistant forms allows a lesser, albeit still high degree of custodial care than maintaining facilities for the material in its current form. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.



United States
Department
of Energy

Comment Form

9-3-98

NAME: (Optional) Holly Whitney
 ADDRESS: 2235 N. Alberta St.
 TELEPHONE: (503) _____
 E-MAIL: holwit@juno.com

I attended the MOX hearing that was held in Portland, OR, last month. I noted that a lot of befuddling and complex jargon was used in the initial presentation. If these hearings are ever going to be truly "public", the language should be simplified. In addition, where are these hearings being advertised? Public airwaves? Why not? Public television? Why not? How about using some of the mainstream AM radio stations to advertise? 1
2

I am opposed to the MOX proposal for 2 reasons:

- A) the transportation of radioactive waste is not safe (especially from Russia!) 3
 B) I want the waste stream to END NOW. No more processing, no more emissions.

I would like to see vitrification of all existing waste, without transporting it. 4
 Lots of Americans are dying of cancer, and we know that radiation is linked. Let's get wise. 5

Thank you,

Holly Whitney

MD160

MD160-1

General SPD EIS and NEPA Process

DOE has and will continue to work toward the goal of presenting technical information, in writing or verbally, in readily understandable language and avoid the use of jargon (technical slang). Specifically, the aim is to provide information at a high school comprehension level. Because the disposition of surplus plutonium is a technically complex program, DOE must use some scientific and technical terms in order to accurately describe how DOE proposes to dispose of surplus plutonium, and the environmental effects of taking those actions.

MD160-2

General SPD EIS and NEPA Process

For all public hearings, DOE placed ads in large-circulation newspapers in the hearing areas and provided public service announcements for area commercial and public radio stations. Notification was also provided by means of mailing lists, Web site announcements, and bulletin boards at each DOE site. Individual notices were also mailed to over 5,000 members of the public who had expressed an interest in the program.

MD160-3

Transportation

DOE acknowledges the commentor's opposition to the MOX approach and transportation of MOX fuel. Surplus plutonium would be shipped from Russia to the United States as a result of the alternatives being evaluated in this SPD EIS. Transportation would be required for both the immobilization and MOX approaches to surplus plutonium disposition. Transportation of special nuclear materials, including fresh MOX fuel, would use DOE's SST/SGT system. Since the establishment of the DOE Transportation Safeguards Division in 1975, the SST/SGT system has transported DOE-owned cargo over more than 151 million km (94 million mi) with no accidents causing a fatality or release of radioactive material. The transportation requirements for the surplus plutonium disposition program are also evaluated in this SPD EIS. As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures or vehicle emissions are expected.

DOE is committed to waste minimization and pollution prevention and is doing everything in its power to limit the amount of waste that would be

generated during this process. As described in Section 2.18.3, the potential impacts of waste generation and emissions due to the MOX approach are expected to be minor.

MD160-4

Alternatives

DOE acknowledges the commentor's preference for immobilization in glass at the site where it is currently located. This EIS evaluates the environmental impacts of immobilization in ceramic and glass at Hanford and SRS. The option of immobilization was considered in the *Storage and Disposition PEIS*, but only Hanford and SRS were chosen in the ROD because these sites have, or are scheduled to have, the infrastructure to provide the needed HLW or cesium radiation barrier to make the immobilized plutonium meet the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors.

MD160-5

Alternatives

The Atomic Energy Act of 1954 authorizes DOE to establish standards to protect health or minimize dangers to life. Radiation protection standards are based on controlling radioactive releases to ALARA levels in recognition of the potential risk of radiation exposure. The extremely small cancer risks presented in this SPD EIS are a direct result of the small quantities of material (e.g., plutonium) expected to be released from the proposed facilities. Calculation of these cancer risks is based on methodologies presented in *Health Effects of Exposure to Low Levels of Ionizing Radiation*, BEIR V (1990).

WOMAN'S INTERNATIONAL LEAGUE FOR PEACE AND FREEDOM
BARBARA DRAGEAUX
PAGE 1 OF 1



Women's International League for Peace and Freedom
 PORTLAND BRANCH
 1819 NW Everett, Portland, OR 97209
 (503) 224-5190

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 Mary Rose
 Barbara Drageaux

SECRETARY
 Olivia Watt

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 41-22-733-81-75
 fax: 41-22-740-10-83

August 18, 1998

RE: Surplus Plutonium Disposal

I'm speaking as co-chair of WILPF (Women's International League for Peace and Freedom). Our ROI (Region of Influence) includes more than 42 National Sections around the world. I believe that I can represent the position of our members as against the use of plutonium for the production of energy, for weapons or any other active use. We insist that the only proper future for plutonium is containment in a permanently unuseable form such as vitrification.

Re-ordering the U.S. Federal budget has long been a priority of U.S. WILPF. WILPF has developed a "Woman's Budget" in the past and an updated version is currently being prepared. It is my view that Longsuffering Citizen Funders are not interested in seeing their tax assessments used to further the goals of Maximally Enriched Institutions whose demands for federal dollars encourage the use of this dangerous substance in yet to be designed (at government expense) facilities. To continue to bill us for the risky transport of plutonium and its proposed by-products (such as MOX) back and forth across the country; to continue to impose on us the cost of the dealing with the resulting waste; and to add to the wealth of corporate vultures at our expense is beyond reason. Our NOI (Notice of Intent) is that we will gather all the resources within our ROI to demand that weapons plutonium be properly and permanently disposed of . . . at Hanford, in the northwest and anywhere else in the U.S.

Barbara Drageaux, co-chair
 WILPF: Portland Branch
 4811 NE 31
 Portland, OR 97211
 503-284-3116

ORD08

ORD08-1

Alternatives

DOE acknowledges the commentor's opposition to the MOX approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

Transportation would be required for both the immobilization and MOX approaches to surplus plutonium disposition. Transportation of special nuclear materials, including fresh MOX fuel, would use DOE's SST/SGT system. Since the establishment of the DOE Transportation Safeguards Division in 1975, the SST/SGT system has transported DOE-owned cargo over more than 151 million km (94 million mi) with no accidents causing a fatality or release of radioactive material. The transportation requirements for the surplus plutonium disposition program are also evaluated in this SPD EIS in Chapter 4 of Volume I and Appendix L.

Use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. The MOX facility would produce nuclear fuel that would displace LEU fuel that utilities would have otherwise purchased. If the effective value of the MOX fuel exceeds the cost of the LEU fuel that it displaced, then the contract provides that money would be paid back to the U.S. Government by DCS based on a formula included in the DCS contract.

Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

July 28, 1998

U. S. Department of Energy,

Like other people say clean Hanford
clean up nuclear waste. Our country
doesn't need surplus plutonium.
If DOE agreed billion dollar deal
with British company to begin
converting waste into glass will
take years.

Jane Wood
Portland, OR

MD005

MD005-1

Purpose and Need

DOE acknowledges the commentor's opposition to new missions at Hanford. DOE believes that Hanford's efforts should remain focused on its current high-priority cleanup mission. The importance of cleanup at Hanford was taken into consideration in identifying preferred sites for surplus plutonium disposition activities. However, no decision has been made, and DOE will continue to consider Hanford for surplus plutonium disposition or other programs that are compatible with the Hanford mission.

1

Dear Email submission. Sept. 15 11:30 pm PDT. I was in attendance at the Portland, Oregon, public meeting on the SPD EIS, although I did not speak at that meeting. I ask that the following be considered as my comment on the subject.

I am opposed to a policy of Mixed Oxide Fuels processing, this is an expensive non-solution to the problem of nuclear waste. MOX is perpetrated primarily by those who will profit economically from it.

In the long run, it will be far more more expensive in dollars and ultimate human misery than declaring Plutonium a waste and diligently setting the good example of entombing it with reliable oversight. It is now well known that MOX programs will result in a large net increase in nuclear waste, and will encourage similar practices worldwide by people even less well prepared than ourselves to attempt such folly.

Also I do not want to allow anything but active waste clean-up to occur at the Hanford, Washington site. Hanford, though over 120 miles distant from the 3 million people in the Portland metro area, will be a real threat to long term livability in our beloved region unless a competent clean up program is conceived, adhered to, and fully carried out. (As someone who has observed and followed events at Hanford for over fifteen years, I say "Yes, the pro-nuclear zealots have backed off a bit, but they still desire to make their fortunes in the same misguided way; by devising ever more elaborate and unworkable schemes to make use of an inherently dirty and dangerous power source that is even now only barely understood because it's real damage is

WD022

WD022-1**MOX Approach**

DOE acknowledges the commentor's opposition to the MOX approach. DOE has identified as its preferred alternative the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the cost and schedule estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

As described in Sections 2.18.3 and 4.28.2.8, additional spent fuel would be produced by using MOX fuel instead of LEU fuel in domestic, commercial reactors. Spent fuel at the proposed reactor sites is not expected to change dramatically due to the substitution of MOX assemblies for some of the LEU assemblies. Likewise, the additional spent fuel would be a very small fraction of the total that would be managed at the potential geologic repository. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

done over TIME, something that humans cannot buy, make, or ultimately control.”

Please have the foresight to realize, the solution to high level waste is clean-up, vitrification, or some other carefully controlled entombment, and the active persuasion of other countries to do the same.

Thank you.
Brad Yazzolino
Portland, Oregon

2

WD022

WD022-2

Alternatives

DOE acknowledges the commentor’s opposition for siting the proposed surplus plutonium disposition facilities at Hanford. DOE believes that Hanford’s efforts should remain focused on its current high-priority cleanup mission. The importance of cleanup at Hanford was taken into consideration in identifying preferred sites for surplus plutonium disposition activities. However, no decision has been made, and DOE will continue to consider Hanford for surplus plutonium disposition or other programs that are compatible with the Hanford mission.



United States
 Department of Energy
Pre-Registration Fax Form

**SURPLUS PLUTONIUM DISPOSITION DRAFT
 ENVIRONMENTAL IMPACT STATEMENT PUBLIC MEETING**

1 When is the
 Public Meeting
 in Washington, DC?
 2 Pl. Disposition may
 affect all or
 many nuclear
 reactors, and
 thus E.R.W.

- | | |
|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| August 4, 1998
Richland, WA (Hanford) | <input type="checkbox"/> Afternoon Workshop - 1:00PM - 4:00PM
<input type="checkbox"/> Evening Workshop - 6:00PM - 9:00PM |
| August 11, 1998
Amarillo, TX (Pantex Plant) | <input type="checkbox"/> Afternoon Workshop - 1:00PM - 4:00PM
<input type="checkbox"/> Evening Workshop - 6:00PM - 9:00PM |
| August 13, 1998
North Augusta, SC (SRS) | <input type="checkbox"/> Afternoon Workshop - 1:00PM - 4:00PM
<input type="checkbox"/> Evening Workshop - 6:00PM - 9:00PM |
| August 18, 1998
Portland, OR | <input type="checkbox"/> Afternoon Workshop - 1:00PM - 4:00PM
<input type="checkbox"/> Evening Workshop - 6:00PM - 9:00PM |
| August 20, 1998
Idaho Falls, ID (INEEL) | <input type="checkbox"/> Afternoon Workshop - 1:00PM - 4:00PM
<input type="checkbox"/> Evening Workshop - 6:00PM - 9:00PM |

Please provide the following information to register for the public meetings on the *Surplus Plutonium Disposition Draft Environmental Impact Statement*. Fax your completed form to 1-800-820-5156. If necessary, make copies so there is only one participant per form. If further assistance is required or if you have any questions, please call 1-800-820-5156 and leave a message. A representative will return your call.

Mr. Mrs. Ms. Dr. Judith Johnsrud
(first name) (last name)
 TITLE: Director [and Sierra Club National Nuclear Waste Task Force]
 ORGANIZATION: Environmental Coalition on Nuclear Power
 MAIL ADDRESS: 433 Orlando Ave.
(street/post office box) (suite/apartment/mailstop)
State College PA 16803
(city) (state) (zip code)
 TELEPHONE: (814) 237-3900 FAX: (814) 237-3900
 E-MAIL ADDRESS: johnsrud@cslink.net

For further information contact:
 U.S. Department of Energy, Office of Fissile Materials Disposition, MD-4
 Forrestal Building, 1000 Independence Ave., SW, Washington, D.C. 20585
 1-800-820-5156

MD016

MD016-1 General SPD EIS and NEPA Process

DOE held public hearings near the potentially affected DOE sites and Washington, D.C. Approximately 1,700 copies of the SPD Draft EIS were mailed, and an NOA letter was mailed to an additional 5,500 members of the public. Approximately 1,300 copies of the *Supplement to the SPD Draft EIS* were mailed, and an NOA postcard was mailed to an additional 5,800 members of the public. Several means were available for providing comments: mail, a toll-free telephone and fax line, and the MD Web site. All comments, regardless of how they were submitted, were given equal consideration.

MD016-2 Waste Management

As described in Sections 2.18.3 and 4.28.2.8, additional spent fuel would be produced by using MOX fuel instead of LEU fuel in domestic, commercial reactors. Spent fuel management at the proposed reactor sites is not expected to change dramatically due to the substitution of MOX assemblies for some of the LEU assemblies. Likewise, the additional spent fuel would be a very small fraction of the total that would be managed at the potential geologic repository. Also, if the MOX approach is selected in the ROD for this SPD EIS, plutonium disposition is proposed to occur in three domestic, commercial nuclear reactors. Commercial nuclear reactors that were not selected would see no changes to their current operations.

Look, this is insane to think you are getting my comment, my comment. Lord help us! That's a hell of a comment. Of course, I understand that the disposing of plutonium is now up to 50 metric tons! Why they call 50 metric I don't know. 50 metric tons is pretty close to 50 long tons. And this is an insane amount and it sure is insane to put it in civilian reactors, commercial reactors. Any terrorist group can get a hold of it they don't have to make it into a bomb. Plutonium is a terrorist weapon just by its very existence. Commercial reactors don't have the kind of where with all to protect something like that. And I'm not even sure the U.S. Government has something to protect, the where with all to protect it. This is very insane. God help us. Respectfully submitted, Marvin Lewis.

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PD002

PD002-1**Nonproliferation**

DOE acknowledges the commentor's opposition to the MOX approach to surplus plutonium disposition based on concerns regarding theft and diversion. In order to address security against terrorist-related incidents, all intersite shipments of plutonium for the surplus plutonium disposition program would be made using DOE's SST/SGT system. This involves having couriers that are armed Federal officers, an armored tractor to protect the crew from attack, and specially designed escort vehicles containing advanced communications and additional couriers. Further, the DOE disposition facilities proposed in this SPD EIS are all at locations where plutonium would have the levels of protection and control required by applicable DOE safeguards and security directives. Safeguards and security programs would be integrated programs of physical protection, information security, nuclear material control and accountability, and personnel assurance. Security for the facilities would be implemented commensurate with the usability of the material in a nuclear weapon or improvised nuclear device. Physical barriers; access control systems; detection and alarm systems; procedures, including the two-person rule (which requires at least two people to be present when working with special nuclear materials in the facility); and personnel security measures, including security clearance investigations and access authorization levels, would be used to ensure that special nuclear materials stored and processed inside are adequately protected. Closed-circuit television, intrusion detection, motion detection, and other automated materials monitoring methods would be employed. Furthermore, the physical protection, safeguards, and security for the MOX facility and domestic, commercial reactors would be in compliance with NRC regulations.

WOMEN'S INTERNATIONAL LEAGUE FOR PEACE AND FREEDOM
PATRICIA T. BIRNIE
PAGE 1 OF 4

1998-008457 July 15 A 9:49



Women's International League for Peace and Freedom
 United States Section
 1213 Race Street, Philadelphia, PA 19107-1691
 (215) 563-7110 • Fax (215) 563-5527 • E-mail: wiplfna1@igc.apc.org

July 11, 1998

President Bill Clinton
 The White House
 Washington, D.C. 20500

*cc Federico Pava, Secretary
 DOE*

WORLD INTERNATIONAL PRESIDENT
 Jane Adams
 Nobel Peace Prize 1962

WORLD INTERNATIONAL SECRETARY
 Emily Greene Balch
 Nobel Peace Prize 1946

NATIONAL PRESIDENT
 Betty Berke

**EXECUTIVE DIRECTOR/
 U.S. SECTION CHAIRPERSON**
 MaryJo Casent

International Office
 Center International
 1 rue de Valenciennes
 1215 Brussels 30

Belgium
 01-20-750-01, 25
 01-20-760-10-00 (7 lines)

**UNITED NATIONS
 REPRESENTATIVE**
 Paula Tamm

SPONSORS
 Dr. Janet Morgan
 Frank Beale
 Ellen Beal
 Anne Bruden
 Helen Caldwell
 Nancy Clark
 Rep. Julia Carson, Jr.
 Rep. Joe V. Cullum
 Christine Doherty
 Rep. Don Edwards
 Frances Fernandez
 Rep. William H. Gray, III
 Corinne Scott King
 Yolande King
 Barbara Kinsinger
 Elizabeth Kinsinger
 Kate Millard
 Betty Neer
 Gloria Peleg
 Julia Ransbach
 Betty Swanson
 Emily Swarthoff
 Barbara
 Gloria Salzman
 Edith Taylor
 Alice Weber
 Jeanne Woodward

Re: Oppose MOX option for surplus plutonium from dismantled nuclear weapons

Dear President Clinton:

After studying the DOE's proposed options for surplus plutonium disposition for plutonium from dismantled nuclear weapons, we are convinced it would be a serious mistake to go forward with the MOX (Mixed Oxide fuel for commercial reactors) option.

Our government's official policy correctly has been to oppose nuclear bomb proliferation from the beginning. The MOX option would make access to plutonium much easier for those wanting to make bombs.

The government should process the surplus plutonium in a way that: 1. provides the fewest opportunities for theft or diversion by those determined to build nuclear weapons; 2. minimizes the handling and transportation of this deadly material; 3. accomplishes the disposition in the quickest manner; and 4. generates the least additional radioactive waste. MOX does not meet any of these four criteria; only direct immobilization does.

The bonus is that immobilization would also be cheaper, and also make it less likely that our country would embark on a plutonium economy.

An additional factor hidden in the debate over MOX vs immobilization is the necessary additional and substantial government subsidies to private utilities, required to maintain those reactors to be operable during the 30 years' time required to dispose of the surplus plutonium (plus to keep them going the 7 or 8 years prior to when MOX fuel could be ready). All U.S. reactors are aging and needing serious repairs at this date. No reactor has ever achieved its 40 year license period, let alone operate for the longer time MOX use would require.

We believe the commercial nuclear industry is at a critical juncture. Utility deregulation now shows that expensive nuclear generation is no longer competitive. We pray that safety systems are not compromised in the present cost-

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2

WAD08

WAD08-1

MOX Approach

DOE acknowledges the commentor's opposition to the MOX approach and support of the immobilization approach. The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. Converting the surplus plutonium into MOX fuel and using it in domestic, commercial reactors and immobilizing the plutonium are effective ways to accomplish this.

Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again. Both approaches would require the handling and transportation of the surplus plutonium. Transportation of special nuclear materials would use DOE's SST/SGT system. Since the establishment of the DOE Transportation Safeguards Division in 1975, the SST/SGT system has transported DOE-owned cargo over more than 151 million km (94 million mi) with no accidents causing a fatality or release of radioactive material.

Consistent with the U.S. policy of discouraging the civilian use of plutonium, a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation would be a once-through cycle with no reprocessing.

As described in Sections 2.18.3 and 4.28.2.8, additional spent fuel would be produced by using MOX fuel instead of LEU fuel in domestic, commercial

reactors. Spent fuel management at the proposed reactor sites is not expected to change dramatically due to the substitution of MOX assemblies for some of the LEU assemblies. Likewise, the additional spent fuel would be a very small fraction of the total that would be managed at the potential geologic repository.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

WAD08-2

MOX Approach

Use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors.

Qualification criteria used to select the domestic, commercial reactors stipulates that the reactors must be able to complete the surplus plutonium disposition program within their operational life as dictated by their licenses. Section 4.28 was revised to discuss the potential environmental impacts of operating Catawba, McGuire, and North Anna, the reactors that would use the MOX fuel.

cutting initiatives of nuclear utilities. We believe nuclear power should be allowed a respectful closure now, without providing huge public monies to prop it up for utilizing the surplus plutonium disposition (that should be disposed of in a better way, anyway).

2

We are worried that the technology proposed by the MOX-consortium-hopefuls ("Plutonium Oxide Polishing") could result in the resumption of reprocessing, though of course under some euphemistic other name. Our scientists have already tried and rightfully rejected reprocessing. Back in the 1960's reprocessing was shut down because of its great danger, its generation of such huge quantities of radioactive waste, its colossal cost, and proliferation concerns. Nothing has changed. Do not allow reprocessing to be resumed, under any name.

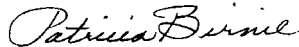
3

We believe the institutional pressures exist that would use MOX as the bridge to the plutonium economy, long envisioned by nuclear promoters. A plutonium economy would provide a field day for proliferation opportunities, and spell doom for our hopes for a healthy environment.

We urge your strong opposition to wasting any further public monies on a technology (MOX) that has as many pitfalls, and which has far more negatives than the immobilization option. Oppose MOX before it gets started.

Thank you for your serious consideration. Please address any correspondence to my address below.

Sincerely,



Patricia T. Birnie, Chair
WILPF Environment Committee
5349 W. Bar X Street
Tucson, AZ 85713

cc: Secretary of Energy
Chairman of the Nuclear Regulatory Commission

Enclosure: Lead Editorial of 6-27-98 LA Times

WAD08

WAD08-3

DOE Policy

U.S. policy dating back to the Ford Administration has prohibited the commercial, chemical reprocessing and separation of plutonium from spent nuclear fuel. The use of U.S. surplus plutonium in existing domestic, commercial reactors does not involve reprocessing (reprocessing is a chemical separation of uranium, transuranic elements [including plutonium], and fission products from spent reactor fuel and the reuse of the plutonium and uranium to produce new fresh fuel). The proposed use of MOX fuel is consistent with the U.S. nonproliferation policy and would ensure that plutonium which was produced for nuclear weapons and subsequently declared excess to national security needs is never again used for nuclear weapons.

LOS ANGELES TIMES

SATURDAY, JUNE 27, 1998

LOS ANGELES TIMES EDITORIALS



MARK H. WILLES, Publisher
 DONALD F. WRIGHT, President and Chief Executive Officer
 MICHAEL PARKS, Editor and Senior Vice President
 JANET CLAYTON, Editor of the Editorial Pages and Vice President

Keep Rein on Plutonium

U.S. must not let a market develop for this substance

One of the knotty little problems that U.N. Ambassador Bill Richardson will inherit when he becomes secretary of Energy is what to do with some 50 tons of surplus plutonium, the hottest nuclear fuel around, enough to fashion about 10,000 bombs.

Assuming he is confirmed by the Senate, Richardson needs to reassess plans for disposing of this stuff. The nuclear tests in India and Pakistan are fresh in mind, and an energy chief should judge those alarming programs against this nation's long-held opposition to nuclear proliferation.

It's true that Washington's nonproliferation policy did not prevent India and Pakistan from developing their own bombs. But if the United States is to officially preach nuclear nonproliferation, it ought to practice that policy in the handling of its own bomb-making materials.

Back in 1996, a special panel of the National Academy of Sciences recommended a two-track approach for disposing of plutonium that was stockpiled during the Cold War. Plutonium oxide would be mixed with uranium oxide to create a fuel known as MOX for sale as fuel to commercial utility companies operating nuclear power plants.

In accepting the plan, former Energy Secretary Hazel O'Leary said that fuel burned in commercial reactors would not be reprocessed to recover plutonium, as is done in some countries. But it could be, and that was enough for a number of scientists to become alarmed over the potential for reprocessing the fuel and creating the infrastructure for a "plutonium economy" in the United States.

Is that time coming? The Energy Department is seeking \$28 million in its fiscal 1999 budget to begin work on a MOX factory at its Savannah

River plant. The preferable method of disposal is to combine plutonium with highly enriched uranium waste and melt the mix into glass or a ceramic material at extremely high temperatures, a process known as vitrification. The fused material then could be safely stored in sealed canisters until a nuclear depository such as that proposed at Yucca Mountain, Nev., is in operation.

The American strategy is to get the Russians to dispose of their plutonium too. The Russians want both sides to use the MOX process, arguing that it offers the greatest assurance that none of the plutonium will be resurrected to make bombs in some future crisis. But can we count on them? The State Department sharply criticized Moscow earlier this week for consummating the sale of two nuclear reactors to India for \$3 billion.



Bill Richardson's prospective problem: 50 tons of plutonium.

Washington argued that the sale sends the wrong message—continued cooperation with India in nuclear economics—at a time when U.S. policy is to punish the Indians by restricting such deals. Critics of the Energy Department's plutonium disposal plan use the very same argument against this country: that it ill-behoves us to pursue nonproliferation against would-be nuclear nations while engaging in a program that might ultimately result in more plutonium being on the market.

The real problem may be that there is no way of putting the genie back in the bottle, or of riding the Earth of plutonium. Indeed, if Europe, Japan and Russia are going to use plutonium for cheap reactor fuel—as it appears—shouldn't we? No. To do so would undermine America's moral policy against nuclear proliferation. Perhaps the first thing Richardson should do at the Department of Energy is to reaffirm that policy.

WAD08

DOE Plutonium Disposition Public Meeting
Thursday, 8/13/98
W. Barry Adams

Ladies and gentlemen, my name is Barry Adams. I am a banker, a life long resident of the CSRA, a board member of the Aiken Chamber of Commerce, and a concerned citizen.

Please know that I cannot testify to you today due to my understanding of nuclear technology and, in particular, my knowledge of plutonium disposition. While not beyond my interest these are subjects that I will never even pretend to understand.

I am positive though, that a number of specialists and engineers have and will present to you very qualified testimonies of why SRS is technically the best choice for the complete plutonium disposition mission.

Neither can I testify to you today concerning the economic issues involved in your selection process. The budgets involved are far more complex than the budgets with which I deal. Just as from the technical aspect however, I am positive that you have and will hear compelling arguments as to why the selection of SRS is the best choice for the pit assembly and conversion mission and will save taxpayers billions of dollars.

But I can testify to you today of the confidence that I and my family have in the scientists, engineers, technicians, accountants, and managers that operate SRS. And I will tell you publicly that we believe that there is no finer or better qualified group of men and women in the world to accept and successfully carry out this mission than these proven professionals.

This simple opinion, one that is shared throughout the CSRA, could be the most critical of all of the factors that will influence your decision. While it is true that SRS is the technical and financial leader of any potential site, it is also true that there is no other location in the United States where common citizens, such as me, have such faith and trust in the abilities of the operators of a DOE site. The communities of the CSRA overwhelmingly support SRS and its missions and this unprecedented community support has not, will not, and cannot be duplicated anywhere.

I encourage you to give high value to the 40 plus years of support that SRS and DOE have received from the citizens of South Carolina and Georgia and assign to SRS the pit disassembly and conversion mission.

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SCD03

SCD03-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.



City of Aiken

South Carolina

Post Office Box 1177
Aiken, S.C. 29802

RESOLUTION
SUPPORTING THE TEMPORARY STORAGE OF
PLUTONIUM FOR THE PURPOSES OF PROCESSING AND VITRIFICATION

WHEREAS, the handling and disposition of excess weapons plutonium is of grave concern to the national security of the United States;

WHEREAS, plutonium reprocessing represents one of the most certain future missions of the United States Department of Energy for the next 20 or 30 years;

WHEREAS, the Savannah River Site has produced approximately 40% of all U.S. weapons grade plutonium over the past 45 years and has safely handled plutonium and glove-box processing equipment with little or no adverse impact on workers, the public, or the environment;

WHEREAS, the Department of Energy and its record of decision recognizes the Savannah River Site as "a plutonium competent site with the most modern, state of the art storage and processing facilities...with the only remaining large-scale chemical separation and processing capability in the Department of Energy complex";

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF AIKEN THAT:

The City Council for the City of Aiken does endorse major plutonium missions for the Savannah River Site, and urges the Department of Energy to designate the Savannah River Site as its lead facility in plutonium management, processing, and temporary storage.

ADOPTED this 24th day of February, 1997, at Aiken, South Carolina.

Fred B. Cavanaugh
Mayor

Ron M. Bonchadeo
Councilmember

Beverly D. Clyburn
Councilmember

Michael Chandler
Councilmember

Jim H. Gandy
Councilmember

Nathan K. King
Councilmember

Leslie B. Price
Councilmember

City Attorney - (803)642-7654 Finance - (803)642-7600 FAX - (803)642-7646 City Manager - (803)642-7654
Planning - (803)642-7608 Public Safety - (803)642-7600 U.I.P. - (803)642-7600

SCD102

SCD102-1

Alternatives

DOE acknowledges the commentors' support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

Surplus Plutonium Disposition Final Environmental Impact Statement

DOE Hearing-Plutonium Disposition

North Augusta, SC
8/13/98

Good afternoon. Mr./Ms. Chairman and Committee Members, my name is Fred B. Cavanaugh, Jr. and I'm very fortunate to be Mayor of the City of Aiken. As Mayor of Aiken, I'm proud to be representing our city's elected officials, staff and citizens when I tell you that we support the Pit Disassembly and Conversion mission at the Savannah River Site (SRS).

As we know, SRS has been selected as the preferred site for Mixed Oxide (MOX) Fuel and Immobilization missions because it has the expertise and infrastructure needed to bring the disposition of plutonium to successful completion.

The Savannah River Site, its dedicated employees, and the people in the Central Savannah River Area (CSRA) supported our nation's Cold War efforts for nearly fifty (50) years by helping to create our country's nuclear defenses. We are now prepared to complete the job President Truman entrusted to us so long ago...making our world a safer place to live.

When it comes to plutonium handling there is no safer facility than SRS, and as far as community support, there is no other site that enjoys as much support as SRS. Year after year on our CSRA trips (some 45 people strong) to visit our legislative delegations and the DOE in Washington, we hear DOE agree that SRS has the strongest community support.

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SCD48

SCD48-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

AIKEN

HONORABLE FRED B. CAVANAUGH

PAGE 2 OF 6

putting the new production reactor at the Savannah River Site. "I think we are the best location," said Georgia Democrat Sam Nunn, referring to SRS. "We have the best people, we have the most infrastructure to deal with it."

1991 - Another article from the Augusta Herald printed a statement from U.S. Representative Butler Derrick, Dem.-S.C., saying, " This is the friendliest place in the country to further development in nuclear production. The people want it. The people in the area feel comfortable with it. As the DOE consolidates nuclear facilities, I think SRS will become one of those consolidation sites."

During the same time frame then Governor Campbell of S.C. sent a letter to the Chief of Staff of President George Bush stating, "I express my support for locating the NWCRS at SRS. The SRS is the optimum location for several reasons..." "All ingredients for a successful relocation of the NWCRS to SRS are in place. My office is ready and willing to work closely with you to this end." And the S.C. Congressional Delegation unanimously endorsed locating the NWCRS at SRS, stating, "The objective of the National Defense Authorization Act is to create Complex-21, a facility more compact, less diverse, and less expensive to operate than the complex of today. We feel these objectives will best be achieved in a timely and cost efficient manner at the Savannah River Site."

These are but a few of the earlier endorsements of the SRS, and it is quite obvious that the support continues to be strong. As a more recent indication I'd like to read the Resolution from the Aiken City

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SCD48

Since moving to Aiken in 1953, I've seen the community support grow. To show that we are not a 'Johnny come lately' when we talk about support, I'd like to share just a few examples of support dating as far back as 1980.

1980 - An Oak Ridge National Laboratory and Oak Ridge Associated Universities poll was positive toward SRS.

1987 - A joint resolution passed by the SC General Assembly stated, "Be it resolved by the Senate, the House of Representatives concurring, that the U.S. Department of Energy is hereby requested to designate its Savannah River Plant as the site for the New Production Reactor."

1988 - A University of South Carolina at Aiken Survey Research Services poll was positive toward SRS.

1990 - An editorial from the Aiken Standard Newspaper stated, "While Savannah River has not been free from environmental problems, it has handled them expeditiously and has enjoyed friendly relations with the surrounding communities, which actively support its continued operation. As taxpayers and citizens we believe SRS should occupy a key position in the implementation of Complex 21 (this had to do with the Nuclear Weapons Complex Reconfiguration initiative).

1991 - An article from the Augusta Herald stated, "Nunn joins backers of the new reactor at SRS." Georgia's senior U.S.Senator said that he favors

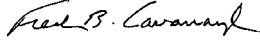
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SCD48

Council on August 10th, 1998 (resolution attached for the record).

In closing I'd just like to say that all we want is the best for our country and we think the best place for the Pit Disassembly and Conversion mission to be successful is the SRS.

Thank you,



Fred B. Cavanaugh



City of Aiken

Post Office Box 1177
Aiken, S.C. 29802

RESOLUTION

SUPPORTING THE PIT DISASSEMBLY AND CONVERSION MISSION
BEING LOCATED AT SAVANNAH RIVER SITE



1997

WHEREAS, the Savannah River Site has demonstrated a continued strong leadership role in this nation's national security since the inception of the site; and

WHEREAS, the professional management team and employees of the Savannah River Site have the proven experience for continuing in this leadership role; and

WHEREAS, the Department of Energy has recognized the importance of and demonstrated their faith in the Savannah River Site by its decisions to locate the MOX and immobilization missions there; and

WHEREAS, the location of the third element of the plutonium disposition mission, pit disassembly and conversion, is now being reviewed by the Department of Energy; and

WHEREAS, the Savannah River site is the only site being considered with the on site experience of processing plutonium and with the necessary infrastructure required for this critical mission;

NOW, THEREFORE BE IT RESOLVED by the Mayor and City Council in meeting duly assembled and by the authority thereof, and on behalf of the citizens of the City of Aiken, that the Department of Energy is urged to select the Savannah River Site for its pit disassembly and conversion mission.

BE IT FURTHER RESOLVED that the citizens of Aiken are encouraged to attend the Department of Energy's public meetings scheduled for Thursday, August 13, 1998, at 1:00 P.M. or 6:00 P.M. in the North Augusta Community Center and to voice their support for locating the pit disassembly and conversion mission at the Savannah River Site.

DONE, RATIFIED AND ADOPTED by the Mayor and City Council of the City of Aiken, South Carolina, on this 10th day of August, 1998.

Fred B. Cavanaugh
Mayor

Michael Amador
Councilmember

Ken M. ...
Councilmember

Beverly ...
Councilmember



...
Councilmember

Leslie B. Price
Councilmember

Robert ...
Councilmember

City Manager - (803)642-7654 • Finance - (803)642-7600 • Legal/City Attorney - (803)642-7654 • Planning - (803)642-7608
Public Safety - (803)642-7620 • Public Works - (803)642-7610 • Recreation - (803)642-7630 • FAX - (803)642-7646
<http://www.aiken.net>

SCD48

Augusta Herald 8-13-98

Rally for SRS mission

Today on Page 5A, you can read the Amarillo, Texas, newspaper's call for residents to show up at public hearings to support new missions for the Pantex nuclear weapons plant. Despite what the editorial says, these missions are clearly better suited for the Savannah River Site.

The Department of Energy has already chosen SRS as the preferred site to convert waste plutonium into mixed oxide fuel (MOX) to power commercial nuclear reactors or into a form suitable for disposal in high-level waste canisters.

The plutonium disposition project, which the Amarillo editorial addresses, goes hand-in-glove with missions the DOE is already recommending for SRS. Locating it in Am-

arillo might be great for the economy there — but a net loss for national taxpayers who would save millions if SRS hosts all three projects.

The expensive basic infrastructure for this work already exists at the Aiken area plant but would have to be built from scratch at Pantex.

But, as noted before in this space, politics, not common sense or taxpayer savings, will decide where the pit disassembly project goes.

This is why it's important for people on both sides of the Savannah River to rally behind SRS in DOE-sponsored public hearings slated today at 1 and 6 p.m. at the North Augusta Community Center on the corner of East Buena Vista Avenue and Brookside Drive.

SCD48

**DOE PLUTONIUM DISPOSITION
PUBLIC MEETING
August 13, 1998
North Augusta, SC Community Center**

Statement by: Teresa H. Haas
Chairperson, Aiken, SC Chamber of Commerce
Board of Directors

- My name is Teresa Haas and I am Chairperson of the Aiken Chamber of Commerce Board of Directors.
- During the public meeting at Pantex, We understand that you heard a great deal of SRS bashing.
- We don't do business that way and prefer to take the high road.
- We'll focus our comments on the reasons why this mission should be located at SRS.
- We are here in behalf of 5 Chambers of Commerce from SC & GA.
- Collectively we represent over 3000 businesses and some 1/2 million people.
- This past April, over 50 individuals and elected officials from our Chambers of Commerce traveled to Washington.
- We were pleased to meet w/Secretary Peña, Deputy Secretary Moler, and other DOE officials to discuss several issues pertaining to the Savannah River Site.
- The Plutonium Disposition Mission, and in particular, the Pit Disassembly and Conversion component, was a primary topic of our discussion with the Secretary.

SCD36

- As we stated then, we strongly support the location of this mission at SRS. The Board of Directors of these Chambers have passed numerous resolutions supporting the Pit Disassembly and Conversion mission at SRS.
- Our support for this particular mission is based upon several reasons:
 - 1) SRS' unique expertise and experience in handling plutonium;
 - 2) SRS' unmatched safety record in the DOE Complex; and,
 - 3) From a business standpoint, we are highly interested in saving dollars for the taxpayers of this country.
- We understand there is a cost savings of at least \$60 million by locating Pit Disassembly and Conversion at SRS. By our standards, that's a lot of money.
- Simply stated, SRS has demonstrated its technical and human resource leadership. That expertise combined with unequalled regional support from 2 states is a powerful combination which can benefit DOE in addressing critical, non-proliferation, material disposition, clean-up and national security challenges for our nation.

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SCD36

SCD36-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at SRS. DOE believes that all the candidate sites are suitable from an operational, community support, and safety standpoint. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.



Aiken Chamber of Commerce

400 Laurens Street, Northwest • P.O. Box 852 • Aiken, South Carolina 29802

(803) 641-1111 • FAX (803) 641-4174

JUNE MURFF
President

RESOLUTION

WHEREAS the handling and disposition of excess weapons plutonium is of grave concern to the national security of the United States; and

WHEREAS plutonium disposition represents one of the most certain future missions of the DOE for the next 20 to 30 years; and

WHEREAS the Department of Energy has decided to pursue a dual path for plutonium disposition and has named the Savannah River Site as a candidate site for both options; and

WHEREAS the Savannah River Site has produced approximately 40 percent of all US weapons grade plutonium over the last 45 years and has safely handled plutonium in glovebox processing equipment with no adverse impact on workers, the public or the environment; and

WHEREAS the Department of Energy in its Record of Decision recognizes the Savannah River Site as "a plutonium competent site with the most modern, state-of-the-art storage and processing facilities...with the only remaining large-scale chemical separation and processing capability in the DOE complex", and

WHEREAS the regional community in the Central Savannah River Area (CSRA) of South Carolina and Georgia strongly supports continued plutonium missions for the Department of Energy's Savannah River Site;

NOW BE IT RESOLVED that the Aiken Chamber of Commerce strongly endorses major plutonium missions for the Savannah River Site and urges the Department of Energy to designate the Savannah River Site as its lead facility in plutonium management and disposition.

APPROVED this 19th day of February 1997 at Aiken, South Carolina, by the Aiken Chamber of Commerce.

Chairman

President

The Partner Every Business Needs!



SCD83

SCD83-1

Alternatives

DOE acknowledges the commentors' support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

1

AIKEN CHAMBER OF COMMERCE
JEFF SPEARS
PAGE 1 OF 3

Good afternoon, my name is Jeff Spears and I am here representing the Greater Aiken Chamber of Commerce as its Vice Chairman for Economic Development. Additionally, I am a Senior Vice President with NationsBank with responsibilities in Augusta, Aiken, North Augusta, Barnwell, Allendale, Edgefield, and Orangeburg; in essence all the towns and communities that have supported the mission of SRS for now almost 50 years. As a graduate of the Aiken County Public School System and a resident of this community for nearly 25 years, I have grown to respect the Savannah River Site as a dedicated, well managed, and safe DOE facility that has the respect and confidence of the 450,000 citizens that live in this area. As a businessman traveling throughout the areas boarding SRS and with my recent work with Aiken's Chamber of Commerce, I am also respectful of the economic viability that SRS brings to this region.

I must confess that where I know a lot about banking I fall well short when it comes to standing before you and discussing Pit Disassembly and Conversion of Plutonium. But as a business

SCD35

person and a tax paying citizen of the United States I would like to (make or reiterate) a few important point.

1. It is my understanding that Plutonium Disposition Mission at SRS could save tax payers 1.6 billion in avoided cost verses locating this mission at another DOE facility.

2. Additionally I understand that the third element; Pit Disassembly could save at least 60 million dollars if located at SRS.

3. I have also learned that DOE has acknowledged SRS's history and expertise in handling Plutonium verses that of other DOE sights making SRS the site of chose for all elements of Plutonium Disposition.

4. By living here so many years I am also knowledgeable of SRS's safety record and DOE's recognition of SRS as one of their safest sites of all DOE complexes.

5. And last I am sure you are impressed with the community support that both SC and GA has given to SRS for nearly 50 years that will continue with new missions in the future.

So, with cost saving to the US government, historical expertise in

SCD35

SCD35-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. DOE believes that all the candidate sites are suitable from an operational, community support, and safety standpoint. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

handling Plutonium, an unprecedented safety record at SRS, and
the overwhelming community support for past and future
missions, I feel DOE has a relatively easy chose in selecting SRS
as the recipient of the third element of Plutonium Disposition
being Pit Disassembly and Conversion.

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Thank you for your time.

SCD35



Aiken County Commission for Technical Education
Post Office Box 686 Aiken, South Carolina 29802

**RESOLUTION IN SUPPORT OF THE PLUTONIUM MISSION AT
THE SAVANNAH RIVER SITE**

WHEREAS, the Department of Energy has already chosen the Savannah River Site as the site for MOX Fuel Fabrication and Immobilization because of the site's capabilities as the Department of Energy's only operating plutonium processing site; and,

WHEREAS, plutonium disposition represents one of the most certain future missions of the U.S. Department of Energy for the next 20 to 30 years; and,

WHEREAS, the safe production and handling of plutonium has been a hallmark of the work performed at the Savannah River Site for many years; and,

WHEREAS, consolidating all three of the new plutonium disposition facilities, including the Pit Disassembly and Conversion Facility, at the Savannah River Site would save at least \$1.6 billion, compared to establishing and maintaining the required capabilities at other sites; and,

WHEREAS, the Savannah River Site has produced approximately 40 percent of all U.S. weapons grade plutonium over the last 45 years and has safely handled plutonium in glovebox processing equipment with no adverse impact on workers, the public, or the environment; and,

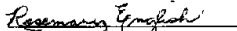
WHEREAS, no site in the Department of Energy Complex can claim a higher level of productivity or a more outstanding safety record than the Savannah River Site;

THEN BE IT RESOLVED: that the Aiken County Commission for Technical and Comprehensive Education strongly endorses major plutonium missions for the Savannah River Site and urges the Department of Energy to designate the Savannah River Site as its lead facility in Mixed Oxide Fuel Fabrication, Immobilization, and Pit Disassembly and Conversion; and,

BE IT FURTHER RESOLVED: that the Aiken County Commission for Technical and Comprehensive Education will commit its resources through Aiken Technical College to the successful development of a skilled workforce and a community capable of supporting this important mission for the nation.

APPROVED this 10th day of August 1998 at Aiken, South Carolina, by the Aiken County Commission for Technical and Comprehensive Education.


Joe W. DeVore, Chairman


Rosemary English, Secretary

1

SCD79-1

Alternatives

DOE acknowledges the commentors' support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

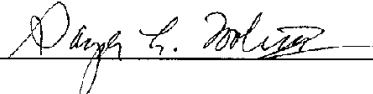
SCD79

**AIKEN COUNTY COMMISSION ON HIGHER EDUCATION
GASPER L. TOOLE, III
PAGE 1 OF 1**

**AIKEN COUNTY COMMISSION ON HIGHER EDUCATION
RESOLUTION WITH REGARD TO PLUTONIUM MISSION
AT THE SAVANNAH RIVER SITE**

WHEREAS, the Savannah River Site has been an integral part of the nation's nuclear defense mission since its inception in 1954; and,
WHEREAS, the safe production and handling of plutonium has been a hallmark of the work performed at SRS for many years; and,
WHEREAS, the proven plutonium-handling experience of the professionals at the Savannah River Site is unmatched by any other site under consideration for this mission; and,
WHEREAS, the decision to place the "Pit Disassembly and Conversion" Mission at the Savannah River Site can save the Federal budget as much as \$1.6 billion as a result of existing facilities and infrastructure; and,
WHEREAS, no site in the Department of Energy Complex can claim a higher level of productivity or a more outstanding safety record than the Savannah River Site;
THEN BE IT RESOLVED: that the Aiken County Commission for Higher Education hereby endorses the addition of the "Pit Disassembly and Conversion" Mission to the MOX Fuel Facility and Plutonium Immobilization Mission approved for the Savannah River Site; and,
BE IT FURTHER RESOLVED: that the Aiken County Commission will commit its resources through the University of South Carolina Aiken campus to the successful development of a skilled workforce and a community capable of supporting this important mission for the nation.

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Gasper L. Toole, III
Chairman

August 13, 1998
Date

SCD92

SCD92-1

Alternatives

DOE acknowledges the commentors' support for siting the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

Comments for DOE

I am Ronnie Young, Chairman Aiken County Council. On behalf of the Aiken County Council I would like to offer a few comments. I am here as someone who was born and raised right here in Aiken County. I am also here because so many of my neighbors here in Aiken County work at the Savannah River site. In fact, more SRS workers live in Aiken County than any where else.

I've watched the developments at the Savannah River Site for my entire life (well, its entire life). I've learned that the people who work at the Site are dedicated to the safe operation of the facility. I guess knowing the people so well has taught me to respect the importance of having the right people taking care of such a vital mission. These people have a long history of handling plutonium and this experience can not be replicated without an immense investment of time and money.

Why would the DOE consider another facility when the Savannah River Site is prepared to take on the Pit Disassembly and Conversion mission. This preparation has been taking place for nearly fifty years.

On behalf of the Aiken County Council, I would like to re-enter into the record the resolution passed by our Council on March 5, 1997 in support of the plutonium disposition missions at the Savannah River Site.

*Ronnie Young
Chairman
Aiken County Council*

SCD12

SCD12-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

**AIKEN COUNTY COUNCIL
HONORABLE RONNIE YOUNG
PAGE 2 OF 2**

Sponsor(s) : County Council
Committee Referral : N/A
Committee Consideration Date: N/A
Committee Recommendation : N/A
Effective Date : March 5, 1997

RESOLUTION NO. 97-3-52

COUNCIL ADMINISTRATOR FORM OF GOVERNMENT FOR AIKEN COUNTY

(To Support and Endorse the Designation of the Savannah River Site as the Lead Facility for the Management and Disposition of Plutonium Within the Department of Energy.)

WHEREAS:

- .. The handling and processing of excess weapons plutonium is of grave concern to the national security of the United States; and
- 2. Plutonium disposition represents one of the most certain future missions of the Department of Energy for the future; and
- 3. The Department of Energy has decided to pursue a dual path for plutonium disposition and has named the Savannah River Site as a candidate site for both options; and
- 4. The Department of Energy in its Record of Decision recognizes the Savannah River Site as "a plutonium competent site with the most modern, state-of-the-art storage and processing facilities ... with the only remaining large-scale chemical separation and processing capability in the DOE complex"; and
- 5. Aiken County has steadfastly supported the Savannah River Site and Department of Energy during its long association.

NOW THEREFORE BE IT RESOLVED BY THE AIKEN COUNTY COUNCIL THAT:

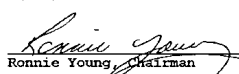
- 1. The Aiken County Council strongly endorses major plutonium missions for the Savannah River Site and urges the Department of Energy to designate the Savannah River Site as its lead facility in plutonium management and disposition.
- 2. The Aiken County Council strongly encourages the Department of Energy to designate a facility for the permanent disposition for the nuclear waste materials to enhance the security and final disposition of these materials.

Adopted at the regular meeting of Aiken County Council on March 4, 1997.

ATTEST:


Susan Pate, Council Clerk

SIGNED:


Ronnie Young, Chairman

IMPACT STATEMENT:

RES0220/AGNDA

COUNCIL VOTE: Unanimous

**AIKEN COUNTY, SOUTH CAROLINA LEGISLATIVE DELEGATION
HONORABLE THOMAS BECK ET AL.**

PAGE 1 OF 1

A RESOLUTION

Whereas, the handling and disposition of excess weapons plutonium is of grave concern to the national security of the United States; and

Whereas, plutonium disposition represents one of the most certain future missions of the Department of Energy for the next twenty to thirty years; and

Whereas, the Department of Energy has decided to pursue a dual path for plutonium disposition and has named the Savannah River Site as a candidate site for both options; and

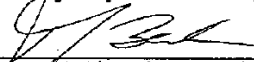
Whereas, the Department of Energy's Surplus Fissile Materials Disposition Program will result in the production of qualified disposal forms and the eventual removal of these materials from the State of South Carolina; and

Whereas, the Savannah River Site has produced approximately forty percent of all United States weapons grade plutonium over the last forty-five years and has safely handled plutonium in glovebox processing equipment with no adverse impact on workers, the public, or the environment; and

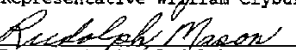
Whereas, the Department of Energy in its Record of Decision recognizes the Savannah River Site as "a plutonium competent site with the most modern, state-of-the-art storage and processing facilities...with the only remaining large-scale chemical separation and processing capability in the DOE complex"; and


Whereas, the regional community in the Central Savannah River Area (CSRA) of South Carolina and Georgia strongly supports continued plutonium missions for the Department of Energy's Savannah River Site. Now, therefore,

Be it resolved that the Aiken County, South Carolina Legislative Delegation strongly endorses major plutonium missions for the Savannah River Site and urges the Department of Energy to designate the Savannah River Site as its lead facility in plutonium management and disposition.


Representative Thomas Beck

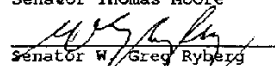

Representative William Clyburn


Representative Rudolph Mason


Representative Charles Sharpe


Representative Roland Smith


Senator Thomas Moore


Senator W. Greg Ryberg

SCD82

SCD82-1

Alternatives

DOE acknowledges the Senators' and Representatives' support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.



As Chief Executive Officer of Aiken Regional Medical Centers in Aiken, South Carolina I would like to extend my full support for the Pit Disassembly and Conversion at the Savannah River Site.

Obtaining the third element of the plutonium disposition mission is a winning proposition for both the Department of Energy and the CSRA (Central Savannah River Area). By choosing Savannah River Site DOE could save US Taxpayers approximately \$1.6 billion based on avoided costs of new structures and equipment. Savannah River Site has demonstrated competency in processing plutonium and have in place the necessary infrastructure for the processing along with comprehensive medical surveillance programs.

As a business person I see the importance of the Savannah River Site to the economic vitality of our area. Job stability along with the creation of new jobs is the backbone of any healthy community. Savannah River Site employees have proven over the years their commitment to safety and to the community at large. I have been a lifelong resident of the area and have no reservations in bringing the Pit Disassembly and Conversion to our region.

Richard H. Satcher
RICHARD H. SATCHER
8/13/98

SCD06-1

Alternatives

DOE acknowledges the commentator's support for siting the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

RESOLUTION

WHEREAS the handling and disposition of excess weapons plutonium is of grave concern to the national security of the United States; and

WHEREAS plutonium represents a significant energy source for the United States when used as fuel in nuclear reactors for the production of electricity; and


WHEREAS plutonium disposition represents one of the most certain future missions of the Department of Energy for the next 20 to 30 years; and

WHEREAS the Savannah River Site has produced approximately 40 percent of all U.S. weapons-grade plutonium over the past 45 years and has safely handled plutonium in glovebox processing equipment with no adverse impact on workers, the public or the environment; and

WHEREAS Allendale County of South Carolina strongly supports continued plutonium missions for the Department of Energy's Savannah River Site;

NOW BE IT RESOLVED that the Allendale County endorses major plutonium missions for the Savannah River Site and urges the Department of Energy to designate the Savannah River Site as its lead facility in plutonium management and disposition.

APPROVED this 12th day of February 1997, by the Allendale County Council.


Chairman

SCD86

SCD86-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.



United States
Department
of Energy

Comment Form

NAME: (Optional) Allendale County Chamber of Commerce
ADDRESS: PO Box 517 Allendale, SC 29810
TELEPHONE: (803) 584-0032
E-MAIL: _____

The Allendale County Chamber of Commerce supports
The disposition of Surplus Plutonium being managed by
Savannah River Site. We feel this could have
a positive Economic impact on this Area.

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FD202

FD202-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

AMERICAN NUCLEAR SOCIETY - SAVANNAH RIVER SECTION
STATEMENT REGARDING PLUTONIUM DISPOSITION
ENVIRONMENTAL IMPACT STATEMENT

My name is John Dewes and I am representing the Savannah River Section of the American Nuclear Society. Our local section consists of some 800 scientists and engineers in the Central Savannah River Area. On behalf of the Section, I would like to make a statement concerning Plutonium Disposition Environmental Impact Statement.

We strongly support the selection of the Savannah River Site for the pit disassembly and conversion mission. It is the only operating site in the DOE complex that has the supporting infrastructure in place to deal with this mission, including the safe management of wastes generated by the process. The site has been safely handling and processing plutonium for many years, and locating these missions at the same site will minimize future decommissioning costs. The biggest assets of the site, however, are the capable, experienced personnel who have proven that they can handle these materials in a safe manner.

We are encouraged by the progress made by the Department of Energy towards fulfilling the Plutonium Disposition Mission, and would like to see similar progress made on the ultimate disposition of wastes generated by these processes, as well as taking responsibility for commercial spent nuclear fuel.

Thank you for the opportunity to provide comment on this important issue.

SCD89

SCD89-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

SCD89-2

Repositories

After irradiation, the MOX fuel would be removed from the reactor and managed with the rest of the spent fuel from the reactor, eventually being disposed of at a potential geologic repository. This SPD EIS, for the purposes of analysis, assumes that Yucca Mountain, Nevada, would be the final disposal site for all immobilized plutonium and MOX spent fuel. As directed by the U.S. Congress through the NWPA, as amended, Yucca Mountain is the only candidate site currently being characterized as a potential geologic repository for HLW and spent fuel. DOE has prepared a separate EIS, *Draft Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada* (DOE/EIS-0250D, July 1999), which analyzes the environmental impacts from construction, operation and monitoring, related transportation, and eventual closure of a potential geologic repository.



United States
Department
of Energy

Comment Form

NAME (Optional) _____
ADDRESS: _____
TELEPHONE: (___) _____
E-MAIL: _____

*Given the information contained within the Summary Document of
the Draft EA, I cannot understand why DOE would entertain
the possibility of selecting any sites other than SRS for plutonium
disposition alternatives. SRS is clearly the most cost effective,
the most protective of the environment and human health and the
most safe facility within the DOE Complex for performing
this work. Pl deassembly and conversion operations should be
located at SRS.*


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SCD69

SCD69-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

 **United States
Department
of Energy** *Comment Form*

NAME: (Optional) _____
ADDRESS: _____
TELEPHONE: (____) _____
E-MAIL: _____

*Plant does not correctly handle plutonium wastes. They
do not have the facilities, processes, controls, etc
to do this safely. EIS done.*

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SCD72

SCD72-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.



United States
Department
of Energy

Comment Form

NAME: (Optional) RICHARD BALSER
ADDRESS: 704-23F ALKER, SC
TELEPHONE: (803) 952-4254
E-MAIL: RICHARD_BALSER@SRS.GOV

SUMMARY: PANTEX DOES NOT APPEAR TO HAVE AN ADEQUATE INFRASTRUCTURE FOR CONTAMINATION CONTROL TO PERFORM PIT DISASSEMBLY AND CONVERSION

I AM CURRENTLY INVOLVED IN BACKGROUND RESEARCH AT SRS. I REVIEWED OCCURRENCE REPORTING STATISTICS FOR THE PANTEX PLANT. THERE WAS A CONSISTENT ABSENCE OF REPORTS OF CONTAMINATION CASES AT PANTEX. ONE PANTEX REPORT IN 1993 DID REPORT A CONTAMINATION CASE. ON REVIEWING THE REPORT, I FOUND THAT THEY (PANTEX) WERE DISMISSING COVERALLS FOR PERSONNEL CONTAMINATION CONTROL. AN ADDITIONAL BURDEN TO DEVELOP RADIOLOGICAL CONTROL PROCEDURES, CONTAMINATED LAUNDRY PROCESSES, EXPERIENCED RADIOLOGICAL CONTROL PERSONNEL, AND ASSOCIATED INFRASTRUCTURE WOULD BE NECESSARY AT PANTEX. THE SWANANAH RIVER SITE HAS THE EXPERIENCE AND INFRASTRUCTURE TO ADEQUATELY CONTROL CONTAMINATION THAT WILL BE AN INTEGRAL PART OF THE PLUTONIUM PIT DISASSEMBLY AND CONVERSION. ALTHOUGH NOT IDEAL, IT WOULD BE DIFFICULT TO ESTABLISH BRANCH PHASES FACILITIES AND SUPPORT TO PROVIDE PROTECTION TO THE WORKERS AND ENVIRONMENT COMPARABLE TO WHAT ALREADY EXISTS AT SRS.

1

SCD90

SCD90-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure.

All of the DOE candidate sites, including Pantex, are considered suitable from a safety and conduct of operations standpoint and all sites would comply with applicable Federal, State, and local laws and regulations governing radiological and hazardous chemical releases. Therefore, Pantex may need to modify or develop appropriate procedures and plans to ensure protection of the workers, public, and environment should a proposed surplus plutonium disposition facility be sited there since the site's current operations do not include plutonium processing. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

THANK YOU, MR. MODERATOR

MY NAME IS JASPER VARN AND I AM THE CHAIRMAN OF THE
BAMBERG COUNTY COUNCIL AND I ALSO SERVE AS VICE-CHAIRMAN
OF THE TRI-COUNTY ALLIANCE REPRESENTING THE THREE COUNTY
REGION OF ALLENDALE, BARNWELL, AND BAMBERG.

MY PURPOSE TODAY, IS TO SPEAK ON BEHALF OF THE 1500 PEOPLE
THAT LIVE IN OUR THREE COUNTY AREA AND WORK AT THE
SAVANNAH RIVER SITE. AND TO ALSO SPEAK ON BEHALF OF THE
MORE THAN 500 PEOPLE WHO HAVE LOST THEIR JOBS FROM
DOWNSIZING AND CHANGING MISSIONS IN WHICH THE SITE HAS
UNDERGONE.

THESE PEOPLE ARE SOME OF THE MOST DEDICATED AND LOYAL
PEOPLE I HAVE EVER KNOWN. THEY HAVE SERVED THEIR COUNTRY
DURING THE COLD WAR AND PLAYED A TREMENDOUSLY IMPORTANT
ROLE IN GETTING TO THE POINT WE ARE TODAY.
IN AN EVER-CHANGING ATMOSPHERE, THE SITE AND ITS PEOPLE

1

SCD40

SCD40-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

**BAMBERG COUNTY COUNCIL
HONORABLE JASPER VARN
PAGE 2 OF 2**

HAVE ADJUSTED AND PERFORMED.

THE PROSPECT OF NEW MISSIONS COMING TO THE SITE IS A WELCOME CHANGE FROM HAVING JOBS DRY UP. THE NEW PLUTONIUM OPPORTUNITIES MEAN A BRIGHTER FUTURE FOR THE SRS EMPLOYEES WHO HAVE DONE THIS WORK FOR SO MANY YEARS.

I BELIEVE THE DEPARTMENT OF ENERGY AND THE ADMINISTRATION WILL REWARD THIS SITE AND THESE PEOPLE BY ASSIGNING THIS MOST IMPORTANT MISSION TO SOUTH CAROLINA.

THE SAVANNAH RIVER SITE HAS THE INFRASTRUCTURE, IT HAS THE SUPPORT OF THE COMMUNITY, IT HAS THE EXPERIENCE, AND MOST IMPORTANTLY, IT HAS THE PEOPLE.

THANK YOU.

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SCD40

THANK YOU MR. MODERATOR

**MY NAME IS DENNIS HUTTO, AND I AM THE PRESIDENT OF THE
BARNWELL COUNTY CHAMBER OF COMMERCE.**

I, TOO WOULD LIKE TO THANK YOU FOR THIS OPPORTUNITY TO
SPEAK ON BEHALF OF THE SAVANNAH RIVER SITE AND THE FINE
PEOPLE WHO WORK THERE.

AS HAS BEEN POINTED OUT, THERE IS NO QUESTION AS TO WHERE
THE ENTIRE PLUTONIUM DISPOSITION MISSION SHOULD BE AND WHO
SHOULD MANAGE IT.

THE QUESTION SEEMS TO BE "WILL THE SECRETARY OF ENERGY
MAKE THE DECISION ON PIT CONVERSION LOCATION BASED ON
TECHNICAL CRITERIA OR POLITICAL EXPEDIENCY?"

WE ALL KNOW, TEXAS HAS A BIGGER CONGRESSIONAL DELEGATION,
WE ALL KNOW, TEXAS HAS MORE ELECTORAL VOTES, BUT WE **ALSO**
KNOW, TEXAS DOES NOT HAVE THE INFRASTRUCTURE OR
EXPERTISE THAT SOUTH CAROLINA HAS IN HANDLING, STORING, AND
PROCESSING PLUTONIUM.

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SCD38

SCD38-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

LAST YEAR, YOU SAID THAT THE SAVANNAH RIVER SITE WAS “A PLUTONIUM-COMPETENT SITE WITH THE MOST MODERN, STATE-OF-THE-ART STORAGE AND PROCESSING FACILITIES” IN THE DEPARTMENT’S COMPLEX. IF THAT WAS TRUE THEN,, THEN IT IS TRUE NOW.

BARNWELL COUNTY, ALLENDALE COUNTY, BAMBERG COUNTY, AND THE REST OF THE REGION HAVE SUPPORTED THE SITE FOREVER. AND YOU KNOW THE ECONOMIC IMPACT THE SITE HAS ON OUR REGION. AND YES, YOU KNOW WE WANT THE MISSION BECAUSE IT MEANS MORE JOBS FOR OUR AREA. BUT IT IS MUCH BIGGER THAN THAT.....THIS IS A DECISION THAT SHOULD BE BASED ON EXPERIENCE, ON COST TO TAXPAYERS, ON EFFICIENCY, ON SITE CAPABILITIES, AND ON WHO CAN DO THE JOB SAFELY. IF THE SECRETARY WILL MAKE THE DECISIONS CONCERNING PLUTONIUM BASED ON THESE CRITERIA, AND LEAVE POLITICS TO THE POLITICIANS, THEN THE SRS COMMUNITIES AND THE NATION ARE BETTER OFF.

1

THANK YOU!!

SCD38

RESOLUTION

WHEREAS the handling and disposition of excess weapons plutonium is of grave concern to the national security of the United States; and

WHEREAS plutonium represents a significant energy source for the United States when used as fuel in nuclear reactors for the production of electricity; and

WHEREAS plutonium disposition represents one of the most certain future missions of the Department of Energy for the next 20 to 30 years; and

WHEREAS the Savannah River Site has produced approximately 40 percent of all U.S. weapons-grade plutonium over the past 46 years and has safely handled plutonium in glovebox processing equipment with no adverse impact on workers, the public or the environment, and

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WHEREAS Barnwell County of South Carolina strongly supports continued plutonium missions for the Department of Energy's Savannah River Site;

NOW BE IT RESOLVED that the Barnwell County endorses major plutonium missions for the Savannah River Site and urges the Department of Energy to designate the Savannah River Site as its lead facility in plutonium management and disposition.

APPROVED this 12th day of February 1997, by the Barnwell County Council.


Chairman

SCD85

SCD85-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

(1)

THANK YOU MR. MODERATOR, DOE, ~~Elected~~ *Appointed officials*
well wishers

LET ME FIRST THANK YOU FOR THE OPPORTUNITY TO SPEAK ON THIS
ISSUE AND EXPRESS THE VIEWS OF THE BARNWELL COUNTY
COUNCIL.

IT SEEMS WE COME TO THESE MEETINGS SEVERAL TIMES A YEAR TO
ASK THE DEPARTMENT OF ENERGY TO DO SOMETHING, ~~AND HERE~~
~~WE ARE AGAIN!!!~~

THIS TIME WE ARE TALKING ABOUT LOCATING ALL THE PLUTONIUM
DISPOSITION MISSIONS WITHIN THE DOE COMPLEX.

THE DEPARTMENT HAS ALREADY DETERMINED THE SAVANNAH
RIVER SITE WILL PERFORM THE VITRIFICATION COMPONENT. THE
SECRETARY HAS ALREADY ANNOUNCED THAT IF A MOX FUEL
FACILITY IS BUILT, IT WILL BE BUILT AT SAVANNAH RIVER.

THE ONLY QUESTION LEFT, IS WHERE WILL THE PIT DISASSEMBLY
AND CONVERSION BE DONE?

THE LOCATION CHOICE IS BETWEEN TEXAS AND SOUTH CAROLINA.
IT APPEARS
AND NOW THE DECISION FOR THIS COMPONENT HAS BROKEN

1

SCD39

SCD39-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

(2)

DOWN TO A POLITICAL ONE.

WHO HAS THE MOST RESOURCES TO PERSUADE CONGRESS? WHO
HAS THE MOST INFLUENCE WITH THE DEPARTMENT OF ENERGY?

~~FOR ONCE I WOULD LIKE TO SEE THE DEPARTMENT OF ENERGY~~
SO IF
MAKE A DECISION BASED ON TECHNICAL MERIT, AND IN THE

BEST INTEREST OF THE NATION AND ITS TAXPAYERS. *SRS*

AND IF THAT SHOULD HAPPEN, YOU KNOW THE SAVANNAH RIVER
SITE IS THE ONLY CHOICE FOR ALL PLUTONIUM RELATED MISSIONS,
AS WELL AS, MANY OTHERS.

THERE IS NO SAFER, MORE EFFICIENT, AND KNOWLEDABLE SITE IN
THE NATION. *Other* THERE IS NO SITE THAT ENJOYS THE COMMUNITY
SUPPORT THAT SRS HAS!

~~IF THIS DECISION WAS PURELY A LOGICAL DECISION, WE WOULDN'T
HAVE HAD TO BE HERE TODAY.~~

~~ALTHOUGH, I ENJOY SEEING OUR GOOD FRIENDS FROM AIKEN AND
AUGUSTA, I CERTAINLY COULD HAVE FOUND SOMETHING ELSE
TO DO BESIDES RIDE 60 MILES TO BE HERE.~~

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SCD39

**BARNWELL COUNTY COUNCIL
HONORABLE CLYDE T. REED
PAGE 3 OF 3**

(3)

AFTER TODAY THE DECISION IS IN YOUR LAP.

YOU'VE HEARD FROM THE COMMUNITIES, YOU KNOW THE SITE'S
CAPABILITIES.

LET'S HAVE AN ANNOUNCEMENT!

1

Again THANK YOU for this opportunity

NAME CLYDE T. REED (Barnwell County Council Chairman)
ADDRESS P.O. BOX 1238
BARNWELL, S.C. 29812
PHONE 803-541-0023

SCD39

BARNWELL SCHOOL DISTRICT 45
JAMES E. BENSON ET AL.
PAGE 1 OF 2

BARNWELL SCHOOL DISTRICT 45
James E. Benson
Superintendent

2008 Hagood Avenue
Barnwell, S.C. 29812
(803) 541-1300 • FAX 541-1348
E-Mail: Barnwell 45@barnwellsc.com

September 14, 1998

Ms. Laura Holgate
Director, Office of Fissile Materials Disposition
U. S. Department of Energy
1000 Independence Avenue
Washington, DC 20585

Dear Ms. Holgate:

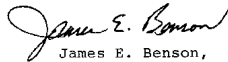
The Barnwell School District 45 Board of Trustees unanimously adopted a Resolution on August 27, 1998, supporting the location of the pit assembly and conversion mission at Savannah River Site. We have sent you the Resolution.

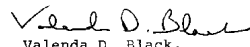
During the 1997-98 school year, approximately 20% of our students had a parent or guardian employed at Savannah River Site. These parents and guardians are active in numerous efforts which benefit our students. They are members of the Scarlet Knights Band Booster Club and the Barnwell Warhorse Club, organizations which raise thousands of dollars annually for the district's band and athletic programs. Many members of the Barnwell Elementary School PTO are employees at SRS.

In addition to being dedicated supporters of their local schools in Barnwell District 45, the SRS parents are hard working, loyal employees. Over the years, they have continuously met safety requirements and demands at the Savannah River facility. Today, they stand ready to meet any challenges which come with the selection of SRS as the location of any new missions, including the vital pit disassembly and conversation mission.

Finally, as stated in the enclosed Resolution, the Barnwell School District 45 Board of Trustees encourages the Department of Energy to select SRS as the facility for the new missions. Hundreds of Barnwell School District 45 graduates have been outstanding employees at SRS for more than four decades. Hopefully, the Department of Energy's decision will assure that students presently being educated in Barnwell School District 45 will be given an opportunity to be a part of the highly skilled work force needed for new missions at SRS. Barnwell School District 45 is working hard to help prepare the next generation of outstanding SRS employees.

Sincerely,


James E. Benson,
Superintendent


Valenda D. Black,
SRS Liaison

Encl.

FULLY ACCREDITED BY SOUTHERN ASSOCIATION OF COLLEGES AND SCHOOLS

MD287

MD287-1

Alternatives

DOE acknowledges the commentors' support for siting the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

BARNWELL SCHOOL DISTRICT 45
JAMES E. BENSON ET AL.
PAGE 2 OF 2

RESOLUTION
Board of Trustees
Barnwell School District 45
August 27, 1998

WHEREAS, the Savannah River Site is being considered by the Department of Energy as the location for the vital pit disassembly and conversion mission, and

WHEREAS, the Department of Energy has previously expressed confidence in Savannah River Site by assigning the MOX and immobilization missions to the Site; and

WHEREAS, highly skilled work force and experienced employees are already in place at Savannah River Site and trained to perform duties and responsibilities necessary for the pit disassembly and conversion mission; and

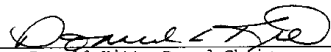
WHEREAS, selection of Savannah River Site for all parts of the plutonium disposition mission, including pit disassembly and conversion, can save taxpayers at least 1.6 billion dollars because structures and equipment required for the mission already exist at Savannah River Site; and

WHEREAS, Savannah River Site employees have consistently met strict safety requirements for over four decades, thus establishing a stellar record of safe operations at the Site, and

WHEREAS, location of the pit disassembly and conversion mission at Savannah River Site would create hundreds of employment opportunities for local citizens, including Barnwell High School graduates,


BE IT THEREFORE RESOLVED that we, the Trustees of Barnwell School District 45, do hereby totally and wholeheartedly support the location of the pit disassembly and conversion mission at Savannah River Site.

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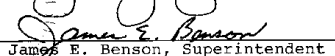

Donald Kitt, Board Chair

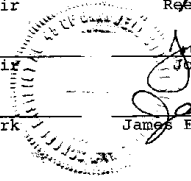

Reed Swann, Member


Sue Black, Vice-Chair


John Young, Member


James McCormack, Clerk


James E. Benson, Superintendent





United States
Department
of Energy

Comment Form

NAME: (Optional) CHARLES BURT
ADDRESS: 3047 MAPLEWOOD DR N. AUGUSTA S.C 29841
TELEPHONE: (803) 2791726
E-MAIL: CHARLES.BURT@SRS.GOV

SRS HAS THE INFRASTRUCTURE COMMUNITY + LEGISLATIVE
SUPPORT FOR THE ENTIRE PLUTONIUM STABILIZATION MISSION.
SENDING ANY PIECE OF THIS WORK TO LANTEX OR ANY OTHER
SITE IS A MISTAKE IN COST-EFFECTIVENESS AND EFFICIENCY OF
OPERATIONS.

1

SCD26

SCD26-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

CITIZENS FOR NUCLEAR TECHNOLOGY AWARENESS
MICHAEL BUTLER
PAGE 1 OF 14



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Executive Director

Michael Butler
2711 Middleburg Drive
Suite 212
Columbia, SC 29204
1-800-299-CNTA
Fax 803/779-0201
www.know-nukes.org

August 11, 1998

Ms. Laura Holgate
Director, Office of Fissile Materials Disposition
U.S. Department of Energy
1000 Independence Ave
Washington, DC 20585

Dear Ms. Holgate:

Citizens for Nuclear Technology Awareness (CNTA) is an organization dedicated to creating greater public awareness of nuclear technology issues and supporting the vital activities of the Savannah River Site (SRS). Our membership consists of current and former SRS employees as well as interested members of the community at large.

Attached to this letter are questions raised by our general membership about inadequacies of the Draft Surplus Plutonium Disposition EIS. While they deal with a wide range of issues, our primary concern lies with the consideration of locating a plutonium processing capability at Pantex where no such mission exists today.

Plutonium processing is a highly specialized technology with unique skill, safety, material accountability and waste management requirements—none of which are in place at Pantex. In addition, if located at Pantex, such processing places extensive clean-up, decontamination and decommissioning demands on a site where those expensive obligations don't currently exist. These issues are not adequately addressed in your current draft which appears to run counter to the conclusions reached in your similar 1996 EIS is for Stockpile Stewardship & Management which states:

"Plutonium would not be introduced into a site that does not currently have a plutonium infrastructure because of the high cost of new plutonium facilities and the complexity of introducing plutonium into sites without current plutonium capabilities."

Unlike Pantex, SRS is a site with existing infrastructure and worker skill base to meet those obligations efficiently and effectively. The men and women of SRS have safely met the requirements of this complex processing arena for more than four decades.

1

2

SCD24-1

Alternatives

DOE acknowledges the commentor's opposition to siting the proposed surplus plutonium disposition facilities at Pantex. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

SCD24-2

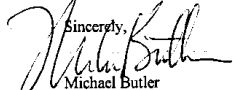
Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure.

CITIZENS FOR NUCLEAR TECHNOLOGY AWARENESS
MICHAEL BUTLER
PAGE 2 OF 14

With its unrivaled history of safe operations, environmental stewardship, technological accomplishment and community support, SRS deserves your fair consideration of the issues and questions CNTA has submitted. If that is done, we are certain that SRS will be your site of choice for all three important missions analyzed in this EIS.

2

Sincerely,

Michael Butler
Executive Director

SCD24

CITIZENS FOR NUCLEAR TECHNOLOGY AWARENESS
MICHAEL BUTLER
PAGE 3 OF 14

Citizens for Nuclear Technology Awareness
 Additional Questions the Surplus Plutonium Disposition EIS

Plutonium Missions/Plutonium Sites/Plutonium Infrastructure

1. In 1996 DOE decided that Pantex was not suitable for a plutonium mission because "plutonium would not be introduced into a site that does not currently have a plutonium infrastructure because of the high cost of new plutonium facilities and the complexity of introducing plutonium operations into sites without current capabilities." (Stockpile Stewardship EIS). What has changed? Why is DOE considering abandoning this policy? 3
2. DOE explains that its preference for immobilization at SRS "complements existing missions and takes advantage of existing infrastructure and staff expertise." (Page S-9). In the June 23, 1998 MOX announcement, DOE said its preference for MOX at SRS was because this mission "complements existing missions and takes advantage of existing infrastructure and staff expertise," and that Pantex "does not offer a comparable infrastructure including waste management." What is different about the plutonium processing required for the pit disassembly and conversion mission that makes Pantex equally preferred? What existing missions at Pantex are complementary? What existing infrastructure and staff expertise can be applied to pit disassembly and conversion? The Cost Report identifies significant inadequacies in the Pantex infrastructure. 4
3. DOE is certainly very responsive to some of the public. "During the scoping process, the comment was made that Pantex should be considered for the pit conversion facility," and three options were added. The EIS claims such comments were screened against three criteria, one of which was infrastructure cost. Please explain how Pantex, with no plutonium infrastructure, could pass this screen. Please provide evidence of a "public" demand to make Pantex a new plutonium processing site. 5

Pit Storage, Transportation, and Safety

4. In the 1997 PEIS Record of Decision, DOE said that it would store surplus pits awaiting disposition in upgraded facilities at Zone 12 at Pantex by 2004. What is the status of that program? Will it be completed on schedule? Since all the surplus pits will have to be packaged and shipped from their current temporary storage in Zone 4 to these upgraded facilities in Zone 12, then moved back again to a pit disassembly facility located in Zone 4, wouldn't there be less cost and exposure to move them once directly to SRS? 6

SCD24

SCD24-3

DOE Policy

The *Final Programmatic Environmental Impact Statement for Stockpile Stewardship and Management (SSM PEIS)* (DOE/EIS-0236, September 1996) states that the pit fabrication mission would not be introduced into a site that does not have an existing plutonium infrastructure because of the high cost of new plutonium facilities and the complexity of introducing plutonium operations into sites without current plutonium capabilities. The SSM PEIS states further that an important element of the site selection strategy is to maximize the use of existing infrastructure and facilities as the nuclear weapons complex becomes smaller and more efficient in the 21st century; thus, no new facilities were to be built to accommodate stockpile management missions. Accordingly, DOE considered as reasonable only those sites with existing infrastructure capable of supporting a pit fabrication mission. Although Pantex has the infrastructure to carry out its current weapons assembly and disassembly mission and nonintrusive pit reuse program, it was not considered a viable alternative for the pit fabrication mission because it did not possess sufficient capability and infrastructure to meet the SSM PEIS siting assumption stated above. Among the operations that were considered in developing siting alternatives for pit fabrication in the SSM PEIS were plutonium foundry and mechanical processes, including casting, shaping, machining, and bonding; a plutonium-processing capability for extracting and purifying plutonium to a reusable form either from pits or residues; and assembly operations involving seal welding and postassembly processing.

When comparing the site selection strategy for pit disassembly and conversion with that used for the pit fabrication mission, the siting criteria in the SSM PEIS have little or no bearing on siting criteria used in this SPD EIS. Pit disassembly and conversion do not require the foundry and mechanical processes discussed in the SSM PEIS and can be accomplished in a stand-alone facility. Also, the SSM PEIS siting assumptions include a requirement to use existing facilities, whereas, the pit conversion facility would be a new structure no matter where it is located.

SCD24-4

Alternatives

The initial preference for Pantex and SRS as sites for the pit conversion facility was based on a determination by DOE that the differences in environmental impacts were modest, and thus did not warrant the preference of one site over the other. Existing infrastructure that supported placement of the pit conversion facility at Pantex included security, staff expertise, and the presence of the pits that need to be dismantled. Costs for all required infrastructure were estimated, and even with the additional waste management infrastructure support needed at Pantex, the cost differences were not considered significant.

As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure.

SCD24-5

Alternatives

Pantex was identified as a candidate site for both the pit conversion and MOX facilities in the NOI. The alternatives that were added after the scoping process to include Pantex as a candidate site for pit conversion were associated with the immobilization-only options; Pantex had already been identified as a candidate site for the pit conversion facility for a number of the hybrid alternatives. As discussed in Section 2.3.1, these options were added after DOE confirmed that they met all the screening criteria.

SCD24-6

Storage and Disposition PEIS and ROD

DOE acknowledges the commentor's concern regarding the storage of plutonium pits at Pantex. DOE is committed to the safe, secure storage of pits and is evaluating options for upgrades to Pantex Zone 4 facilities to address plutonium storage requirements. DOE has addressed some of the commentor's concerns in an environmental review concerning the repackaging of Pantex pits into a more robust container. This evaluation is documented in the *Supplement Analysis for: Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components—AL-R8 Sealed Insert Container* (August 1998). This

document is on the MD Web site at <http://www.doe-md.com>. Based on this supplement analysis, the decision was made to repackage pits at Pantex into the AL-R8 sealed insert container and to discontinue plans to repackage pits into the AT-400A container.

Worker exposure estimates attributable to the decisions to repackage pits in AL-R8 sealed insert containers were incorporated in the revised Section 2.18 and Appendix L.5.1.

The issues raised in this comment relate to pit storage decisions made in the *Storage and Disposition PEIS* and the *Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components* (DOE/EIS-0225, November 1996). DOE is considering leaving the repackaged surplus pits in Zone 4 at Pantex for long-term storage. An appropriate environmental review will be conducted when the specific proposal for this change has been determined; e.g., whether additional magazines need to be air-conditioned. The analysis in this SPD EIS assumes that the surplus pits are stored in Zone 12 in accordance with the ROD for the *Storage and Disposition PEIS*.

5. Locating pit disassembly and conversion at Pantex could be viewed from a safety perspective in the following way:
- DOE is proposing to convert sealed plutonium metallic components into a large quantity of dispersible plutonium oxide, then store it directly in the flight path of the Amarillo airport in a facility near bunkers of high explosives and nuclear warheads.
 - Then DOE must ship a dispersible form of plutonium in quantities far larger than has ever been shipped before.
- Please explain the logic of this proposal from a safety perspective.

7

6. The EIS transportation data show a significant transportation safety advantage and essentially no more total shipping by co-locating all three disposition programs at SRS. Since the only explanation given for adding Pantex to the program as a processing site was because the pits were there and that might mean a transportation advantage for this option, isn't there now reason to eliminate Pantex, especially since it has no history of plutonium work?

8

7. DOE's Environmental Management Division has stated that they expect to save over a billion dollars by accelerating shipment of non-pit plutonium from Hanford and Rocky Flats to SRS for disposition. If it is cost effective for EM to expedite the movement of that plutonium, then isn't it cost effective for DOE to accelerate the shipments of pits from Pantex? Particularly considering the major upgrades required at Pantex for safe storage if the pits are not promptly moved.

9

EIS Inadequacies

8. Appendix N. Plutonium Polishing, shows that an aqueous process can purify plutonium and produce plutonium oxide with very little waste. Since dissolving plutonium metal is easier than dissolving plutonium oxide, it stands to reason that direct dissolving of pits is a reasonable alternative. Where is the alternative of dissolving pits compared and assessed versus the proposed dry process of pit conversion?

10

9. The Nuclear Weapons and Material Monitor reported that there was an Appendix B which evaluated an aqueous alternative for pit conversion and concluded that it could be done faster and used proven technology. Where is this alternative in the draft?

11

10. Please provide supporting data for the claim that the proposed dry process for pit conversion produces fewer wastes. This is truly puzzling. There is no data in the EIS to support this claim.

12

11. A recent amendment to the MOX RFP says DOE will pay the delay cost associated with failure to deliver acceptable PuO₂ on schedule. Was this requested by the potential vendors because of DOE's plan to use ARIES - produced oxide, and their concern as to its acceptability?

13

SCD24

SCD24-7

Human Health Risk

DOE acknowledges the commentator's concern about the safety of locating and operating a pit conversion facility at Pantex.

In response to public concerns, a number of actions (see Appendix K.1.5.1) have been taken to reduce the risk of an aircraft crash at Pantex. The frequency of a crash into a pit conversion facility vault containing plutonium powder (plutonium dioxide) is less than 1 in 10 million per year. According to conservative calculations (see Table K-12), this "beyond-extremely-unlikely" accident (estimated frequency: lower than 1 in 1 million per year) would induce 4.5 LCFs in the population within 80 km (50 mi) of the site.

The impacts of explosives and the associated release of plutonium powder into the environment have also been evaluated (Appendix K.1.5.2.1). An explosion would be "unlikely" (estimated frequency: 1 in 10,000 to 1 in 100 per year). Conservative calculations (see Table K-12) indicate that this accident would induce only 0.00011 LCF in the population within 80 km (50 mi) of the site. The inadvertent detonation of a nuclear warhead is not considered credible.

Impacts associated with transporting plutonium dioxide from Pantex to offsite facilities are addressed in this SPD EIS; an estimate of the maximum potential impacts of such a shipment is included in Appendix L.6.3. According to conservative calculations, a transportation accident in an urban area would produce 27 LCFs within a radius of 80 km (50 mi) of the accident location. However, given the extremely low frequency of the accident (much lower than 1 in 10 million per year), the actual risk of a fatal cancer is extremely low. A transportation accident in a rural area, the scenario discussed in Section 4.6.2.6, has a frequency of 1 in 10 million per year and a predicted impact of less than 0.1 LCF. The net result is an extremely low risk of a fatal cancer among the population within 80 km (50 mi) of the accident.

In summary, conservative evaluations indicate no significant safety concerns to the public from locating the pit conversion facility at Pantex.

SCD24-8**Transportation**

The selection of sites for potential surplus plutonium disposition facilities was based on a number of factors. The location of the surplus pits at Pantex was not the only reason for making it a reasonable alternative for siting the proposed surplus plutonium disposition facilities. As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures or vehicle emissions are expected. Table L-6 shows the transportation risks for all alternatives. Analyses of transportation risks are just one of the factors considered in the decisionmaking regarding facility siting.

SCD24-9**Storage and Disposition PEIS and ROD**

The potential cost saving that could result from the early movement of nonpit surplus plutonium from RFETS and Hanford is based on the termination of storage operations and the required security at those sites. The same situation does not apply to Pantex, which will continue its storage mission and associated security. Further, major upgrades of storage facilities at Pantex are not required, but DOE is considering some upgrades (e.g., air conditioning, catwalks, standby power) to address plutonium storage requirements. Although SRS is preferred for the proposed surplus plutonium disposition facilities, a decision has not been made. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

SCD24-10**Plutonium Polishing and Aqueous Processing**

DOE analyzed the full range of reasonable alternatives for the disassembly and conversion of the plutonium in pits into a form suitable for disposition using either immobilization or MOX fuel. There are two basic technologies available for the conversion of pit plutonium into plutonium dioxide: wet (aqueous) and dry processing. DOE determined that aqueous processing, a proven technology, was not a reasonable alternative for pit conversion because current aqueous processes using existing facilities would produce significant amounts of waste, and aqueous processing would complicate international safeguard regimes. Dry processing was analyzed in the *Storage and Disposition PEIS* and this SPD EIS. DOE is currently demonstrating the

dry plutonium conversion process as an integrated system at LANL. This activity is described in the *Pit Disassembly and Conversion Demonstration EA* (DOE/EA-1207, August 1998), which is available on the MD Web site at <http://www.doe-md.com>. There is no alternative in the SPD EIS that evaluates dissolving pits.

DOE is not including the plutonium-polishing process (a small-scale aqueous process) as part of the pit conversion facility; that process would be part of the MOX facility. DOE would use only dry processes in the pit conversion facility. For this reason, the thermal process for removing gallium may not be needed in the pit conversion facility (see revised Section 2.4.1.2). Plutonium dioxide is the starting form for the disposition of surplus plutonium for either the immobilization or MOX fuel approach.

On the basis of public comments received on the SPD Draft EIS, and the analysis performed as part of the MOX procurement, DOE has included plutonium polishing as a component of the MOX facility to ensure adequate impurity removal from the plutonium dioxide. Appendix N was deleted from the SPD Final EIS, and the impacts discussed therein were added to the impacts sections presented for the MOX facility in Chapter 4 of Volume I. Section 2.18.3 was also revised to include the impacts associated with plutonium polishing.

SCD24-11 Plutonium Polishing and Aqueous Processing

This comment is addressed in response SCD24-10.

SCD24-12 Waste Management

The *Storage and Disposition PEIS* evaluated an aqueous plutonium conversion process similar to that used in the SRS canyons. A plutonium conversion process is needed to convert plutonium metal to an oxide for use in either the immobilization or MOX facility. Compared with the dry conversion processes evaluated in this SPD EIS for use in the pit conversion and immobilization facilities, the aqueous conversion process evaluated in the PEIS would generate significantly more radioactive waste as shown in the following table.

12. If you used an aqueous process to make pure plutonium oxide, there would be a big savings in the cost and environmental impact of both the MOX and immobilization plants. The plants could be smaller, less automated, and much less R&D would be required. Did your decision to only consider a dry process consider the downstream impact of your conversion process decision? Please provide the details of your evaluation of the differences in the downstream facilities. 14

13. A pit disassembly and conversion plant at Pantex will have to high-fire the plutonium oxide to comply with DOE Standard 3013 for shipment and storage. Is the high-fired oxide usable for either MOX or immobilization without extensive pretreatment? If aqueous polishing is required, the Oak Ridge report says the feed cannot be high-fired. How will you polish plutonium oxide treated to the 3013 Standard? 15

14. There is no analysis of the savings possible by using existing facilities at SRS for converting plutonium to the oxide form for MOX or immobilization. Since the SRS facilities are already operating and have most of the capabilities needed for this activity, wouldn't there be a big savings of time, investment, and future cleanup? 16

Programmatic Questions and Issues

15. Appendix N, Plutonium Polishing, is presented as a "contingency." What is the legal status of a "contingency" or an Appendix? Generally a NEPA issue has to be presented as part of the proposed action, available for public review and comment, to be a legal basis for a decision. 17

16. The MOX Request for Proposal (RFP) has been revised four times since its original issue a little more than two months ago in May. MOX feed is now described as being produced by a "dry process" rather than the original hydride-dehydride process. What is the significance of this change? What process is described in the EIS? Will the EIS be revised to incorporate the evolving process proposed for MOX? 18

17. The ten year MOX disposition program is inconsistent with schedules, capacities and reactor cycles. The elapsed time is more likely the 20-25 years described by many. The EIS uses a ten year basis for estimating exposure. This represents a best—not worst—boundary case. Do you plan to revise the EIS to reflect more realistic schedules? 19

Waste and Waste Management

18. How much waste would be produced by using the existing facilities at SRS to convert plutonium to plutonium oxide? Would this amount significantly impact the waste DOE already has to handle at SRS? If all of the 50 metric tons of surplus plutonium were aqueously processed at SRS, fewer than 20 additional glass logs would be produced by DWPF out of an approximate total of 5200 and would represent less than one month out of 25 years of operation of DWPF. 20

SCD24

SCD24-14 Plutonium Polishing and Aqueous Processing

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. This new report includes the cost associated with plutonium polishing in the estimates for the MOX facility.

The remainder of this comment is addressed in response SCD24-10.

SCD24-15 Plutonium Polishing and Aqueous Processing

It is not certain that plutonium dioxide would have to be high-temperature fired prior to shipment and storage to meet the DOE 3013 standard, *Criteria for Preparing and Packaging Plutonium Metals and Oxides for Long-Term Storage*. High-temperature-fired dioxide can be used for either the immobilization or MOX approach; it just does not dissolve as readily as material that has not been subjected to the higher temperatures. The report to which the commentor may be referring, *Final Data Report Response to the Draft Surplus Plutonium Disposition Environmental Impact Statement Data Call for Generic Site Add-On Facility for Plutonium Polishing* (ORNL/TM-13669, June 1998) indicates that it is better not to subject the plutonium dioxide to the higher-temperature processing, but does not indicate that plutonium dioxide processed at higher temperatures is unacceptable as feed for either immobilization or MOX fuel fabrication.

The remainder of this comment is addressed in response SCD24-10.

SCD24-16**Cost**

Because cost issues are beyond the scope of this SPD EIS, this comment has been forwarded to the cost analysis team for consideration. The *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998) report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

SCD24-17**General SPD EIS and NEPA Process**

CEQ regulations for NEPA in 40 CFR 1502.18 state that an appendix shall: (a) consist of material prepared in connection with an EIS (as distinct from material which is not so prepared and which is incorporated by reference); (b) normally consist of material which substantiates any analysis fundamental to the EIS; (c) normally be analytic and relevant to the decision to be made; and (d) be circulated with the EIS or be readily available on request. In accordance with CEQ regulations, lengthy technical discussions of modeling methodology, baseline studies, or other work are best reserved for an appendix. In other words, if technically trained individuals are the only ones likely to understand a particular discussion, then that discussion should be included as an appendix, and a plain language summary of the analysis and conclusions of that technical discussion should be included in the text of the EIS.

The remainder of this comment is addressed in response SCD24-10.

SCD24-18**Pit Disassembly and Conversion**

The HYDOX (dry) process described for the pit conversion facility in Section 2.4.1.2 is a process for converting plutonium metal with certain impurities to a plutonium dioxide with a minimum of impurities. In the HYDOX process, the pit hemishells (i.e., nonpit plutonium metal) would be placed into the HYDOX module, where the metal would be exposed to and react with hydrogen, then nitrogen, and finally oxygen at controlled temperatures and pressures to produce plutonium dioxide. This is one variation of the basic hydride-dehydride process; another would produce a metal rather than an

oxide. The process described in this SPD EIS is not only representative of the proposed process, but is bounding for potential impacts, including accidents. However, a pit disassembly and conversion demonstration aimed at optimizing process operations for the pit conversion facility is under way at LANL. Should evidence from that demonstration or other research invalidate the analyses reflected in this EIS, additional NEPA documentation would be prepared.

SCD24–19

MOX Approach

DOE's MOX RFP specified a timetable including first insertion of production, not test, fuel no later than the end of calendar year 2007, and a date of last insertion no later than 2019. This timetable was acceptable to DCS, the team that was selected for this effort.

The analyses in this SPD EIS reflect a 10-year schedule of operations for the proposed surplus plutonium disposition facilities. Section 4.30.2 includes a discussion of incremental impacts of variations in that schedule. As explained in that section, certain impacts (e.g., exposure) would occur only or primarily during processing, and the total impacts would not change even if the processing schedule were extended or shortened. For example, if the operating period of the MOX facility were extended by 1 year, the total dose and LCFs for the worker and the public would remain essentially unchanged, though the annual dose would be expected to decrease. If the facility were not operating, or operating at a lower throughput, the dose rate would be lower. Then the only contributors would be small amounts of internal equipment contamination and material in highly shielded storage, and presumably fewer workers would be at the facility. Total impacts from these internal sources, however, would depend on the period of operations; lengthening operations for 1 year would mean continued impacts at the levels described in Chapter 4 of Volume I for 1 year longer.

To support the MOX approach, the proposed reactors would use MOX fuel for up to 3 years after it is placed in the reactor core. Therefore, the reactors could operate with MOX fuel for 3 to 5 years after the MOX facility has ceased operating because that facility includes space for storage of up to 2 years' worth of fresh fuel assemblies.

SCD24-20**Waste Management**

Use of F-Canyon at SRS to convert plutonium for use in either the immobilization or MOX facility would require reconfiguring the canyon and keeping it in operation for another 10 years or more. DOE has already made a commitment to the public, the U.S. Congress, and DNFSB to shut the canyon down. DOE presented the SRS Chemical Separation Facilities Multi-Year Plan to Congress in 1997. This plan provides the DOE strategy for the expeditious stabilization of SRS nuclear materials in accordance with DNFSB Recommendation 94-1, and provides for the early stabilization of certain limited quantities of plutonium materials from RFETS. Once this stabilization effort was complete, the canyon would be shut down and D&D activities would begin. In addition, this process would make the surplus material considerably more weapons-usable, and as such would not fulfill the purpose and need of the proposed action.

The remainder of this comment is addressed in response SCD24-12.

19. DOE plans to entomb six million cubic feet of TRU waste at WIPP. The pit disassembly and conversion facility will produce less than .1% of this quantity regardless of whether a dry or aqueous process is used. Therefore whether one pit conversion process produces slightly more or less TRU waste than another is irrelevant. The appropriate criteria are: 21

- Cost, schedule, technical confidence
- Impacts on downstream processing
- Potential for using existing facilities

Where is the comparison of the two process options against these criteria?

EIS Data Inconsistencies

20. Why is the radiation exposure to construction workers at Pantex reported as zero when section 3.4.4.1.2. reports that annual doses of 100 mrem above background are measured in zone 4, the site of the proposed facilities? 22

21. Why is the annual TRU waste volume for pit disassembly and conversion, a very large facility handling 33 metric tons of plutonium oxide, much less than the TRU waste from the much smaller MOX and immobilization facilities which handle equal or less plutonium? 23

SCD24

SCD24-21

Waste Management

An aqueous process for conversion of plutonium would need to be placed in a new facility. Existing canyon facilities are not configured for a plutonium disposition mission and are either shut down or planned for shutdown and D&D.

DOE is committed to waste minimization and pollution prevention throughout the complex.

The remainder of this comment is addressed in response SCD24-10.

SCD24-22

Human Health Risk

As stated in Section 3.4.4.1.2, the 100-mrem dose is the dose measured at an offsite control location. It is the dose strictly associated with the natural background levels of the area; no part of the dose is attributable to above-background sources. Therefore, there is no discrepancy in the assertion of a zero dose (i.e., the dose level above background) for Pantex construction workers. A statement was added to applicable Chapter 3 (Volume I) sections to further clarify this issue.

SCD24-23

Waste Management

The pit conversion facility would convert relatively clean plutonium metal pits to clean plutonium dioxide. In contrast, both the immobilization and MOX facilities mix the plutonium with other materials, increasing the material flow through the facility by a factor of 10 to 20. Additionally, the immobilization facility would handle plutonium in various forms, including fuel rods and plates, impure oxides, and impure metals and alloys. Each form of plutonium requires different processing techniques; some would require significantly more handling than pits require in the pit conversion facility and therefore would generate more TRU waste. Likewise, many steps are needed to fabricate the clean plutonium dioxide into fuel assemblies in the MOX facility. Because the immobilization and MOX approaches are more complicated and process a considerably larger total material throughput, it is estimated that more TRU waste would be produced by the immobilization and MOX facilities than the pit conversion facility.

CITIZENS FOR NUCLEAR TECHNOLOGY AWARENESS
MICHAEL BUTLER
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August 11, 1998

Ms. Laura Holgate
Director, Office of Fissile Materials Disposition
U.S. Department of Energy
1000 Independence Ave
Washington, DC 20585

Dear Ms. Holgate:

Citizens for Nuclear Technology Awareness (CNTA) is an organization dedicated to creating greater public awareness of nuclear technology issues and supporting the vital activities of the Savannah River Site.

Earlier this year a committee of our members with an extensive background in nuclear science, project management and plutonium processing conducted a general analysis of the life-cycle cost of locating all three Plutonium disposition facilities at the Savannah River Site (SRS). That analysis, using the best information available at the time, determined that as much as \$1.6 billion could be saved by co-locating all three facilities with other plutonium-related operations and infrastructure at SRS.

Our analysis was never intended to be precise. It was, however, intended to show the magnitude of the cost savings SRS offers. For that reason we were puzzled by the cost report accompanying the draft EIS for Surplus Plutonium Disposition. It lists the cost difference between locating the pit disassembly and conversion operations at Pantex vs SRS to be only about \$60 million (\$920 million at SRS vs \$980 million at Pantex). While your report acknowledges that those estimates could vary as much as 40 percent-- potentially making the SRS option \$715 million less expensive than doing it at Pantex --it also could be misconstrued to set the Pantex costs well below those at SRS, something we find incredible.

A detailed review of your report by our experts found that it ignored a number of significant project cost factors, including:

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SCD01-1

Cost Report

Because this comment relates directly to the cost analysis report, it has been forwarded to the cost analysis team for consideration. The *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, is available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

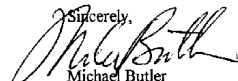
SCD01

* the potential synergy and economies of scale gained by locating all three programs at SRS. Co-locating the plutonium disassembly plant with these facilities and other related operations would surely offer significant cost advantages by way of shared facilities and personnel.

* the extremely high programmatic cost and schedule impact of creating, operating and eventually decommissioning a complete plutonium processing infrastructure at Pantex, where no such infrastructure exists today. Significant plutonium-related support capabilities (RadCon programs, waste management, analytical labs, experienced processing workers, nuclear material accountability programs, etc.) would have to be built from scratch at Pantex. That expensive basic infrastructure already exists at SRS.

Each of those important cost factors was included in our analysis. Attached to this letter are a number of specific related issues our experts identified. We believed that these inadequacies need to be addressed before a final decision is made that may not be in the best interest of the tax payers and our nation's nonproliferation efforts.

We look forward to your consideration of these concerns and anticipate that your decision on site preference for the vital pit disassembly and conversion mission reflects the obvious: SRS is the logical choice for this important program.

Sincerely,

Michael Butler
Executive Director

1

2

SCD01

SCD01-2

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and has the pit conversion facility complements existing missions and takes advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

**CITIZENS FOR NUCLEAR TECHNOLOGY AWARENESS
MICHAEL BUTLER
PAGE 3 OF 4**

**Citizens for Nuclear Technology Awareness
Questions Concerning Cost Report Inadequacies
Associated with the Surplus Plutonium Disposition EIS**

1. The Cost Report (page 1-10) says DOE's estimate for the immobilization facility was determined on a square foot basis based on experience with similar projects. What were those similar projects? Most of the large comparable nuclear facilities built in this country in the last 15 years have been built at SRS (e.g., DWPF, NSR, HB-Line, RTF). All of them were significantly more per square foot than it appears you are using in the cost report (\$450M/108,000 sq. ft. = \$4200).
2. Both the MOX and Immobilization facilities are estimated at about \$4200/sq. ft. Why is the cost per square foot of the pit disassembly and conversion facility so much less, about \$2900 per sq. ft. of hardened space? (\$440M/~150,000 sq. ft. = \$2900).
3. In the Cost Report (Table ES-2) a number of infrastructure deficiencies at Pantex are identified. How much did you incorporate into the cost study for:
 - Creating strategic nuclear material processing capability at Pantex?
 - Creating radioactive waste management capability at Pantex?
 - Constructing a source calibration facility at Pantex? (The new source calibration facility at SRS cost \$35M)
 - Constructing a plutonium analytical lab at Pantex?

These infrastructure improvements would cost hundreds of millions of dollars to construct and operate. The report did not consider the substantial cost to clean up and remove them at the end of the mission. These costs must be considered for a valid cost analysis.
4. The construction of a MOX plant is reported at \$510M for both Pantex and SRS, yet the Pantex plant is bigger in the EIS. In addition, the Cost Report identifies the major deficiencies in the infrastructure at Pantex which would have to be added to support a MOX operation. How do you explain this?
5. The storage of pits at Pantex is inadequate. The GAO issued a report in April saying worker's health and safety have been placed at risk. The Defense Board says that DOE's efforts to improve storage "appear confused" and lack technical basis. Since the plutonium will have to come to SRS for MOX or immobilization anyway, doesn't it make sense to pack and ship as soon as possible and avoid a large cost to upgrade pit storage. Pit disassembly and Conversion at Pantex means surplus pits will remain in inadequate storage for nearly 20 more years. How much is in the Cost Report to improve pit storage at Pantex? SRS already has NEPA coverage to transport and store up to 20,000 pits in P-Reactor. (Pantex EIS)

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SCD01

SCD01-3

This comment is addressed in response SCD01-1.

Cost Report

CITIZENS FOR NUCLEAR TECHNOLOGY AWARENESS
MICHAEL BUTLER
PAGE 4 OF 4

6. Why does a MOX plant (120,000 sq. ft.) require about 50% more construction manpower than the pit disassembly and conversion facility (~150,000 sq. ft.)?
7. The Cost Report says it “does not incorporate possible synergies between co-locating disposition facilities at one site” (page 3.3). What would be the savings if all three missions are located at SRS?
8. Safeguards and Material Control & Accountability requirements are significantly different and more complex for handling plutonium in bulk forms rather than the piece counts employed at Pantex. Where have you evaluated the cost and schedule impacts of major safeguards and MC&A upgrades at Pantex?
9. Where is the cost of facilities required for on-site TRU management and storage for MOX and PDCF facilities at Pantex? Did the assumptions include anything more complex than “pass-through” to WIPP? Have you included the cost of reworking the WIPP EIS to allow shipments from Pantex? Pantex currently cannot ship TRU waste to WIPP, and the EIS says that shipments to WIPP cannot begin until 2016.
10. You have penalized sites other than Pantex with an \$80 million dollar charge for packaging and shipping pits to a pit disassembly facility elsewhere (page 3-4). How much did you penalize a facility at Pantex for the higher cost of shipping plutonium oxide to SRS? Plutonium oxide requires more shipments, requires more extensive packaging and uses higher cost shipping and storage containers than shipping pits.

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April 24, 1998

Honorable Federico Pena
Secretary Of Energy
U.S. Department of Energy
1000 Independence Avenue
Washington, D.C. 20585

We understand, Secretary Pena

... that within the next month or so the Department of Energy plans to announce its selection of the preferred sites for the three components of the Plutonium Disposition Program (Pit Disassembly and Conversion, MOX and Immobilization). We also understand that the Department is leaning toward selecting the Pantex Plant and ~~as the preferred location for the Pit Disassembly and Conversion facility with the Savannah River Site selected for the immobilization plant and possibly the MOX plant.~~

Our organization, Citizens for Nuclear Technology Awareness (CNTA), is deeply concerned about the possibility of not co-locating all three new facilities at Savannah River. Such a decision would ignore significant financial and institutional considerations. As a pro-nuclear educational organization with more than 1000 members, we would hope our views would be considered in your decision.

It should be obvious that co-locating all three new facilities at Savannah River will significantly reduce the up-front capital investment in new facilities and we estimate the cost of the overall program could be reduced by in excess of \$1 Billion compared to the course that we believe the Department intends to take. Further, for the department to consider creating another plutonium site at Pantex at the same time it is requesting billions to clean up the ones it already has should be a matter of grave concern to all taxpayers in this country. ~~Pantex is not now a plutonium site. They have never processed plutonium and have only handled sealed weapons components containing plutonium and, as a result, there is no plutonium handling infrastructure and competency at Pantex.~~ The Department is proceeding on a path which will require that it duplicate at Pantex the unique plutonium structure now operating at SRS - environmental and personnel

SCD78

SCD78-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for all three proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure.

The *Final Programmatic Environmental Impact Statement for Stockpile Stewardship and Management (SSM PEIS)* (DOE/EIS-0236, September 1996) states that the pit fabrication mission would not be introduced into a site that does not have an existing plutonium infrastructure because of the high cost of new plutonium facilities and the complexity of introducing plutonium operations into sites without current plutonium capabilities. The SSM PEIS states further that an important element of the site selection strategy is to maximize the use of existing infrastructure and facilities as the nuclear weapons complex becomes smaller and more efficient in the 21st century; thus, no new facilities were to be built to accommodate stockpile management missions. Accordingly, DOE considered as reasonable only those sites with existing infrastructure capable of supporting a pit fabrication mission. Although Pantex has the infrastructure to carry out its current weapons assembly and disassembly mission and nonintrusive pit reuse program, it was not considered a viable alternative for the pit fabrication mission because it did not possess sufficient capability and infrastructure to meet the SSM PEIS siting assumption stated above. Among the operations that were considered in developing siting alternatives for pit fabrication in the SSM PEIS were plutonium foundry and mechanical processes, including casting, shaping, machining, and bonding; a plutonium-processing capability for extracting and purifying plutonium to a reusable form either from pits or residues; and assembly operations involving seal welding and postassembly processing.

When comparing the site selection strategy for pit disassembly and conversion with that used for the pit fabrication mission, the siting criteria in the SSM PEIS has little or no bearing on siting criteria used in this SPD EIS. Pit disassembly and conversion do not require the foundry and mechanical processes discussed in the SSM PEIS and can be accomplished in a stand-alone facility. Also, the SSM PEIS siting assumptions include a requirement to use existing

Surplus Plutonium Disposition Final Environmental Impact Statement

CITIZENS FOR NUCLEAR TECHNOLOGY AWARENESS

FRED C. DAVISON

PAGE 2 OF 2

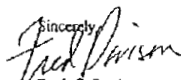
protection and monitoring systems, plutonium capable laboratories, new waste management systems, but most importantly, the entire intellectual infrastructure, competency and experience base. In fact, in 1996 the Department said, in its "Final Programmatic Environmental Impact Statement for Stockpile Stewardship and Management", in regard to taking Pantex out of consideration for Pit Manufacturing:

"Plutonium would not be introduced into a site that does not currently have a plutonium infrastructure because of the high cost of new plutonium facilities and the complexity of introducing plutonium operations into sites without current plutonium capabilities"

Considering all of the implications of the decisions involved, we believe it would be appropriate that a completely independent assessment of the total costs of locating these facilities separately at Pantex and SRS compared to co-locating all three facilities at SRS be conducted prior to any decisions by the Department as to the preferred sites.

Savannah River has an unequalled history of safe and reliable production, processing, and storage of plutonium. The disposition mission is overwhelmingly supported by the citizenry and officials of the two-state region. SRS is clearly the logical choice for consolidating all three functions.

The CNTA membership includes many experts in large scale plutonium processing. We are prepared to assist the Department in ensuring the success of the Plutonium Disposition Program and we are looking forward to hearing from you in the near future regarding our concerns.

Sincerely,

Fred C. Davison
Chairman

cc: Sen. Strom Thurmond
Sen. Fritz Hollings
Sen. Pete Domenici
Congressman Lindsey Graham
Elizabeth A. Moler

SCD78

facilities, whereas, the pit conversion facility would be a new structure no matter where it is located.

As discussed in Section 1.6, factors used in site selection for the preferred alternative included site infrastructure, mission, and staff expertise. Although Pantex may not currently have the extensive plutonium processing infrastructure already present at SRS, analyses in Chapter 4 of Volume I indicate that impacts of construction and normal operation of the proposed surplus plutonium disposition facilities on infrastructure, health, safety, and the environment at Pantex would likely be minor (e.g., see Sections 4.6 and 4.26.3).

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

CITIZENS FOR NUCLEAR TECHNOLOGY AWARENESS
WILLIAM C. REINIG
PAGE 1 OF 2



Citizens for
Nuclear
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September 3, 1998

Ms. Laura Holgate
Office of Fissile Materials Disposition
U. S. Department of Energy
1000 Independence Avenue
Washington, D.C. 20585

Dear Ms. Holgate:

We are unable to understand DOE's recent decision that the Savannah River Site and the Pantex site are "equally preferred" for siting the pit disassembly and conversion mission.

In 1996 the Department of Energy announced, in the Stockpile Stewardship and Management EIS, that "plutonium would not be introduced into a site that does not currently have a plutonium infrastructure because of the high cost and complexity of introducing plutonium operations into sites without current capabilities."

The 1996 position was established during consideration of Pantex (and other sites) as potential locations for a pit manufacturing mission. Pantex was disqualified from consideration on the basis of this 1996 position. We have been told that pit manufacturing and pit disassembly and conversion have similarities; both processes are "dry" and involve handling of the plutonium and associated pit parts. Compared to pit manufacturing, the Disposition Program function of pit disassembly and conversion involves a much larger quantity of plutonium and produces plutonium oxide rather than the much easier to manage metallic form. If it is too expensive and complex to introduce pit manufacturing into Pantex, then surely it must follow that it is considerably less desirable to introduce pit disassembly and conversion.

At the public meeting in North Augusta on August 13, your staff was unable to explain why DOE is now considering Pantex. We would very much like to know the following:

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MD245-1

Alternatives

DOE believes that the siting alternatives and analyses included in this SPD EIS are not inconsistent with the *Final Programmatic Environmental Impact Statement for Stockpile Stewardship and Management* (SSM PEIS) (DOE/EIS-0236, September 1996). The SSM PEIS states that the pit fabrication mission would not be introduced into a site that does not have an existing plutonium infrastructure because of the high cost of new plutonium facilities and the complexity of introducing plutonium operations into sites without current plutonium capabilities. The SSM PEIS states further that an important element of the site selection strategy is to maximize the use of existing infrastructure and facilities as the nuclear weapons complex becomes smaller and more efficient in the 21st century; thus, no new facilities were to be built to accommodate stockpile management missions. Accordingly, DOE considered as reasonable only those sites with existing infrastructure capable of supporting a pit fabrication mission. Although Pantex has the infrastructure to carry out its current weapons assembly and disassembly mission and a nonintrusive pit reuse program, it was not considered a viable alternative for the pit fabrication mission because it did not possess sufficient capability and infrastructure to meet the SSM PEIS siting assumption stated above. Among the operations that were considered in developing siting alternatives for pit fabrication in the SSM PEIS were plutonium foundry and mechanical processes, including casting, shaping, machining, and bonding; a plutonium-processing capability for extracting and purifying plutonium to a reusable form either from pits or residues; and assembly operations involving seal welding and postassembly processing.

When comparing the site selection strategy for pit disassembly and conversion with that used for the pit fabrication mission, the siting criteria in the SSM PEIS have little or no bearing on siting criteria use in this SPD EIS. Pit disassembly and conversion do not require the foundry and mechanical processes discussed in the SSM PEIS and can be accomplished in a stand-alone facility. Also, the SSM PEIS siting assumptions include a requirement to use existing facilities, whereas, the pit conversion facility would be a new structure no matter where it is located. This SPD EIS analyzes the environmental impacts

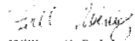
MD245

- Why was this position changed?
- Who in DOE approved this change?
- What new information exists to warrant this change?
- If aqueous processing is required, would Pantex be dropped from consideration?

CNTA is a non-profit, grassroots organization that includes many of this country's experts in large scale plutonium processing. We are prepared to assist the Department in ensuring the success of the fissile material disposition program. But with DOE engaged in a multi-decade program to downsize, consolidate, and remediate existing plutonium sites, we are unable to understand why DOE would propose creating a new plutonium site. The wisdom of establishing the DOE position in 1996 was obvious to us then, and remains today.

1

Sincerely,



William C. Reinig
Vice Chairman

cc: Sen. Strom Thurmond
Sen. Fritz Hollings
Congressman Lindsey Graham
Honorable Bill Richardson
Greg Rudy
David Nulton

MD245

of construction and operation of these facilities at the four candidate sites, including the impact on infrastructure.

Appendix N of the SPD Draft EIS analyzed the plutonium-polishing process (by which impurities could be removed from the plutonium feed for MOX fuel fabrication) as part of either the pit conversion or MOX facility. However, on the basis of public comments received on the SPD Draft EIS, and the analysis performed as part of the MOX procurement, DOE has included plutonium polishing as a component of the MOX facility. Therefore, the polishing process is not a consideration in siting the pit conversion facility. The alternatives that include siting the MOX facility with plutonium polishing at Pantex are reasonable and are therefore included in the SPD Final EIS. Appendix N was deleted from the SPD Final EIS, and the impacts discussed therein were added to the impacts sections presented for the MOX facility in Chapter 4 of Volume I. Section 2.18.3 was also revised to include the impacts associated with plutonium polishing.

As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

Author: HOWARD CARTER at md-01
Date: 9/16/1998 7:52 AM
Priority: Normal
TO: DAVID NULTON, BERT STEVENSON
Subject: Savannah River site

I am writing to express my extreme displeasure with the quality of the hearings held in N. Augusta a few weeks ago. Those were not public hearings, they were cheerleading exercises for the SRS employees and local officials elected by those employees. The people of N. Augusta and Aiken do not speak for the whole state of SC. Of course the people who were there were in favor doing "plutonium disposition" in SC. Their employer (SRS) gave them the day off and told them to come down to the hearings in a show of support. Who is going to come and argue against his neighbor in N. Augusta? This was not a fair hearing, and did not represent the opinions of the majority of S. Carolinians. I demand that DOE hold other hearings around the state, at least in Columbia, Charleston, and Savannah. British Nuclear Fuels, who will be running SRS, does not have a great environmental record in Europe. The people of this state deserve to hear the WHOLE STORY about plutonium reprocessing and all of its effects on health and the environment. If the citizens of S.C. are going to be asked to assume the risks inherent in taking all of the weapons grade plutonium, we deserve to have some input into the decision making process. And, we are unequivocally opposed to MOX fuel, and there will be a fight about this, I guarantee it. Plutonium should not be used as an energy source. It should be collected, immobilized, and safely stored away, never to re-enter the environment again. I don't know who came up with this MOX idea, but it is a bad one, and I don't care what the Russians are doing, we need to take the environmental high road and tell them MOX is a bad idea, and we can't support it. Vitrification is the preferred method of disposition, but SHOW US THE PERMANENT SITE, PLEASE, otherwise, we don't want it coming here, because we don't trust you to ever take it away. We believe it will stay here forever, and SC is not a good site for permanent disposal. I am sure you will hear more from me, I am angry that this plutonium reprocessing monster has reared its ugly head again. It was a bad idea when Carter mixed it, and it's still a bad idea.

Thank you for your time, please consider holding more hearin

gs,
especially in Columbia,

Susan Corbett
2701 Heyward St.
Columbia, S.C. 29205

FD333

FD333-1

General SPD EIS and NEPA Process

DOE acknowledges the commentor's concerns regarding the public hearing. DOE employees and contractors at SRS were neither granted leave nor ordered to present their views at the North Augusta hearing; they attended in an official capacity or took personal leave to attend. DOE believes that the hearing was objective and open; all attendees were given an opportunity to provide comments orally or in writing. It was simply not feasible to hold public hearings in every location, including the locations suggested by the commentor.

To provide for public comment on the SPD Draft EIS, DOE conducted public hearings near the potentially affected DOE sites, and thus, with the most directly affected populations. This decision did not preclude relevant comment by State and local government, tribes, individuals, and organizations. Approximately 1,700 copies of the SPD Draft EIS were mailed, and an NOA letter was mailed to an additional 5,500 members of the public. Several means were available for providing comments: public hearings, mail, a toll-free telephone and fax line, and the MD Web site. Equal consideration was given to all comments, regardless of how they were submitted.

FD333-2

Alternatives

DOE acknowledges the commentor's opposition to the MOX approach. As indicated in Section 1.6, SRS is preferred for the MOX facility because this activity complements existing missions and takes advantage of existing infrastructure and staff expertise. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself.

DOE is not considering reprocessing any of the surplus plutonium that is the subject of this SPD EIS. U.S. policy dating back to the Ford Administration has prohibited the commercial, chemical reprocessing and separation of plutonium from spent nuclear fuel. The use of U.S. surplus plutonium in existing domestic, commercial reactors does not involve reprocessing (reprocessing is a chemical separation of uranium, transuranic elements [including plutonium], and fission products from spent reactor fuel and the reuse of the plutonium and uranium to produce new fresh fuel). The proposed

use of MOX fuel is consistent with the U.S. nonproliferation policy and would ensure that plutonium which was produced for nuclear weapons and subsequently declared excess to national security needs is never again used for nuclear weapons.

DOE is not considering disposal of surplus plutonium in South Carolina. The proposed facilities would process the surplus plutonium so that it can be permanently disposed of in a potential geologic repository. Only the immobilized plutonium, in canisters of vitrified waste from DWPF, would be stored at SRS for any length of time, pending availability of the potential geologic repository. DOE is presently considering a replacement process for the in-tank precipitation (ITP) process at SRS. The ITP process was intended to separate soluble high-activity radionuclides (i.e., cesium, strontium, uranium, and plutonium) from liquid HLW before vitrifying the high-activity fraction of the waste in DWPF. The ITP process as presently configured cannot achieve production goals and safety requirements for processing HLW. Three alternative processes are being evaluated by DOE: ion exchange, small tank precipitation, and direct grout. DOE's preferred immobilization technology (can-in-canister) and immobilization site (SRS) are dependent upon DWPF providing vitrified HLW with sufficient radioactivity. DOE is confident that the technical solution will be available at SRS by using radioactive cesium from the ion exchange or small tank precipitation process. A supplemental EIS (DOE/EIS-0082-S2) on the operation of DWPF and associated ITP alternatives is being prepared.

This SPD EIS, for the purposes of analysis, assumes that Yucca Mountain, Nevada, would be the final disposal site for all immobilized plutonium and MOX spent fuel. As directed by the U.S. Congress through the NWPA, as amended, Yucca Mountain is the only candidate site currently being characterized as a potential geologic repository for HLW and spent fuel. DOE has prepared a separate EIS, *Draft Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada* (DOE/EIS-0250D, July 1999), which analyzes the environmental impacts from construction, operation and monitoring, related transportation, and eventual closure of a potential geologic repository.

DOE also appreciates the commentator's concern that surplus plutonium disposition activities not contaminate the environment. This EIS analyzes the potential environmental impacts associated with implementing the proposed activities at the candidate sites. The results of these analyses, presented in Chapter 4 of Volume I and summarized in Section 2.18, demonstrate that the activities would not have major impacts at any of the candidate sites. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

My name is Susan Corbett and I'm calling to make some comments about the DOE hearings in North Augusta regarding the plutonium disposition plans for Savannah River Site. I live in Columbia and I drove down to the hearings hoping to hear some open discussion and debate of the issues. I was very disappointed and very angry at what I saw. It was a completely one sided conversation. It, this is, this is not a public meeting. Basically what I, what I could see, what I could hear was that the SRS had given their employees a day off so that they could come down and have a show of support for, you know, basically lining their own pockets by creating more jobs and, you know, having more money for their own personal little infrastructure there in North Augusta and Aiken and I put forth the idea that North August and Aiken does not speak for the whole State of South Carolina. And we are being asked to assume a number of risks by allowing this plutonium to be brought here. And I believe that there should be other hearings around the State and around Georgia, around that area too, Savannah probably, definitely Columbia, possibly Charleston, other places that stand to be affected by this process, and places where it's a true public cross section of the public. Nobody in North Augusta is going to come and argue against their neighbors employer. It just wouldn't be the right thing to do and so it is not a level playing field. It is not an objective group of people. This is their livelihood. Of

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PD059

PD059-1

General SPD EIS and NEPA Process

DOE acknowledges the commentor's concerns regarding the public hearing. DOE employees and contractors at SRS were neither granted leave nor ordered to present their views at the North Augusta hearing; they attended in an official capacity or took personal leave to attend. DOE believes that the hearing was objective and open; all attendees were given an opportunity to provide comments orally or in writing. It was simply not feasible to hold public hearings in every location, including the locations suggested by the commentor.

To provide for public comment on the SPD Draft EIS, DOE conducted public hearings near the potentially affected DOE sites, and thus with the most directly affected populations. This decision did not preclude relevant comment by State and local government, tribes, individuals, and organizations. Approximately 1,700 copies of the SPD Draft EIS were mailed, and an NOA letter was mailed to an additional 5,500 members of the public. Several means were available for providing comments: public hearings, mail, a toll-free telephone and fax line, and the MD Web site. Equal consideration was given to all comments, regardless of how they were submitted.

course they want more jobs there. Personally the State of South Carolina is not hurting for jobs so much that we need to bring in jobs and industries that create more pollution. This is already a very contaminated State and Savannah River is already a very contaminated river and I am basically opposed to bringing any more industries that can pollute and contaminate our State. I understand something has to be done with the plutonium and the warheads. At this point I would say that vitrification is definitely the preferred method.

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I am not in favor of MOX. I am absolutely opposed to MOX. I think that there are a lot of people that are going to be opposed to MOX. We do not want to see plutonium used as an energy source and set the very bad precedent to start doing that. And I, I heard some comment about well once they got all this weapons stuff burnt up in the MOX fuel they wouldn't make any more. I don't believe that for a second. I believe that once that facility is built and the capability is set up, that there will be an ongoing push to continue to use plutonium as an energy source. Now that's going to be a fight there I can guarantee it. There are a lot of people who are opposed to that. That's why the breeder reactor program never got off to the start. That's why Carter and his administration nixed it. It was a bad idea then, it's a bad idea now.

3

PD059

PD059-2

Immobilization

DOE acknowledges the commentor's support for the immobilization approach to surplus plutonium disposition. DOE is presently considering a replacement process for the in-tank precipitation (ITP) process at SRS. The ITP process was intended to separate soluble high-activity radionuclides (i.e., cesium, strontium, uranium, and plutonium) from liquid HLW before vitrifying the high-activity fraction of the waste in DWPF. The ITP process as presently configured cannot achieve production goals and safety requirements for processing HLW. Three alternative processes are being evaluated by DOE: ion exchange, small tank precipitation, and direct grout. DOE's preferred immobilization technology (can-in-canister) and immobilization site (SRS) are dependent upon DWPF providing vitrified HLW with sufficient radioactivity. DOE is confident that the technical solution will be available at SRS by using radioactive cesium from the ion exchange or small tank precipitation process. A supplemental EIS (DOE/EIS-0082-S2) on the operation of DWPF and associated ITP alternatives is being prepared. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

PD059-3

MOX Approach

DOE acknowledges the commentor's opposition to the MOX approach. Use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. The MOX facility would produce nuclear fuel that would displace LEU fuel that utilities would have otherwise purchased. If the effective value of the MOX fuel exceeds the cost of the LEU fuel that it displaced, then the contract provides that money would be paid back to the U.S. Government by DCS based on a formula included in the DCS contract. The commercial reactors selected for the MOX approach include only those reactors whose

Vitrification is the preferred method for dealing with this plutonium. I don't want to comment at this point about exactly where or when. I, I think that we need to move a little more slowly in this and look at it carefully and make sure we're doing the right thing. I understand that there are vitrification problems at Savannah River right now with the existing high level waste that they have down there. And I think the DOE is rushing forward with this a little too cavalierly and I would like to see the process slowed down for more public education, more public input, more discussion around this area and definitely no MOX fuel. That is just not going to fly here.

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And I was very, like I said, very disturbed by those hearings. I don't think I've ever been to a public hearing where there was a more one-sided discussion. It was just, didn't even have the slightest hint of being an objective, diverse discussion. It was obviously so one-sided. And I think we need to here opposing voices and other points of view. But people are not going to come out in their own neighborhood, against their own neighbors. It just isn't fair to ask people to do that. So I know there are people in North August that have concerns but it would be difficult for them to speak out. And basically, as a person who went down to just listen and be objective, it would have been difficult for me to get up and ask questions because the environment was basically pretty hostile against anybody who wanted to question or, you know, look twice critically at this whole issue. And that, that is not the right way to conduct public hearings. We need to move around the state so we can hear other voices on the whole issue. That's all I have to say and I hope that you will consider these comments seriously. Thank you for listening. Bye-bye.

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PD059

operational life is expected to last beyond the life of the surplus plutonium disposition program. Should additional plutonium be declared surplus in the future, it is likely that MOX fuel fabrication would be a proposed disposition method if it proves successful, and the additional plutonium were amenable to MOX fabrication. However, additional NEPA would be required at that time to evaluate the potential impacts and inform the public.

The remainder of this comment is addressed in response PD059-1.

CORBETT, SUSAN
PAGE 1 OF 1

Author: Martha Crosland at EM-06
Date: 8/26/1998 7:00 PM
Priority: Normal
TO: David Nulton at MD-01, Bert Stevenson at MD-01
CC: Bruce Bornfleth at ES
Subject: Savannah River site

Dave and Bert:

The following stakeholder concern would seem to relate to the public hearings on the MD PEIS. I would assume that your office is the appropriate one to respond and if so please confirm with Bruce Bornfleth.

Thanks,

Martha

Forward Header

Subject: Savannah River site
Author: Bruce Bornfleth at GSE
Date: 8/26/98 2:53 PM

Martha,

Skila Harris asked that I forward this message to you. She suggested you would know the appropriate person to respond to this stakeholder.

Thank you,

Bruce Bornfleth, 586-4040

Forward Header

Subject: Savannah River site
Author: jcorbett@gateway.net at INTERNET at X400PO
Date: 8/26/98 12:08 PM

Hi, I am a concerned citizen of South Carolina, who has just recently found out about the plans DOE has for the Savannah River site. I went to N. Augusta to the hearings and was completely outraged. That was not an objective, fair public hearing. SRS gave their workers the day off to turn out in a show of force. There was no constructive or objective discussion or dialogue. As a citizen of this state, I resent the fact that a few members of a small, self-interested community dare to speak on behalf of the whole state regarding such a high risk venture as pit disassembly, MOX fabrication and Pu vitrification. I demand that DOE hold hearings in a more neutral venue, to allow for real discussion and the opposing views to be heard by the public. The hearings in N. Augusta were a sham and a white washing. Hearings should be held in Columbia, Savannah, and Charleston, at the very least. Sincerely, Susan Corbett

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FD172

FD172-1

General SPD EIS and NEPA Process

DOE acknowledges the commentor's concerns regarding the public hearing. DOE employees and contractors at SRS were neither granted leave nor ordered to present their views at the North Augusta hearing; they attended in an official capacity or took personal leave to attend. DOE believes that the hearing was objective and open; all attendees were given an opportunity to provide comments orally or in writing. It was simply not feasible to hold public hearings in every location, including the locations suggested by the commentor.

To provide for public comment on the SPD Draft EIS, DOE conducted public hearings near the potentially affected DOE sites, and thus with the most directly affected populations. This decision did not preclude relevant comment by State and local government, tribes, individuals, and organizations. Approximately 1,700 copies of the SPD Draft EIS were mailed, and an NOA letter was mailed to an additional 5,500 members of the public. Several means were available for providing comments: public hearings, mail, a toll-free telephone and fax line, and the MD Web site. Equal consideration was given to all comments, regardless of how they were submitted.



Fred E. Humes
Director

September 15, 1998

Ms. Laura S. H. Holgate, Director
Office of Fissile Materials Disposition
U.S. Department of Energy
P. O. Box 23786
Washington, D.C. 20026-3786

Dear Ms. Holgate:

At your August 13, 1998 public meeting on the Surplus Plutonium Disposition (SPD) Draft Environmental Impact Statement (DEIS) I spoke in favor of siting all three portions of the SPD program at the Savannah River Site. A copy of my comments are attached. At this time I want to highlight my two comments regarding what I consider to be deficiencies in the DEIS, and recommend that the EIS be revised before issuance in final.

1. The Environmental Consequences analyses for the Pantex alternative does not reflect the increased probability and severity of environmental releases and worker safety risk resulting from (1) a lesser level of site plutonium infrastructure and (2) inexperienced workers handling and processing plutonium in metal and oxide forms. If pit disassembly and conversion is assigned to Pantex, there will be a "learning curve" as Pantex workers become familiar with handling a new material in new facilities and that the learning process will result in an increased incidence of operator errors and equipment failures. Such errors and failures will result in increased environmental impacts at Pantex when compared to the experienced personnel and extensive infrastructure which exist at Savannah River. The Draft EIS assumes that the probability and consequence of off-normal conditions are equal for Pantex and Savannah River - and that is not realistic. I suggest that you solicit the input of the Defense Nuclear Facilities Safety Board in quantifying the increased risks and impacts associated with startup of plutonium processing at Pantex. Without this analysis, the SPD-DEIS does not adequately address all environmental impacts.
2. The SPD-DEIS states that cost differences between Pantex and Savannah River are "within the uncertainty of cost estimates." That conclusion is not supported by the facts contained in the DEIS. The Draft describes the many facilities and operating capabilities which currently exist at Savannah River and which must be constructed or established at Pantex. In addition, the Draft identifies the many instances of program synergy that would exist at Savannah River and which

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FD313-1

Human Health Risk

DOE acknowledges the commentor's concerns regarding potential facility accidents and human health risks. Training would be conducted on mock, nonradiological material before facility processes became operational, so the "learning curve" would be largely completed before operation with radiological material. The probabilities of operational error cannot be meaningfully estimated, particularly for processes and procedures that are not yet fully developed, and for bounding accidents whose frequencies are low to begin with. In any case, the estimates of accident frequency presented in this SPD EIS are sufficiently conservative to bound any hypothetical increase in the probability of environmental releases.

FD313-2

Cost Report

Because this comment relates directly to the cost analysis report, it has been forwarded to the cost analysis team for consideration. The *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, is available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. The cost report was independently reviewed by an outside architect-engineering firm before being released to the public. Any future updates to this report will also be independently reviewed.

ECONOMIC DEVELOPMENT PARTNERSHIP
FRED E. HUMES
PAGE 2 OF 5

cannot exist at Pantex. Either your conclusion must be changed or it must be supported by analysis. If DOE continues to believe that the comparative costs are "within the uncertainty of cost estimates" then DOE must prove that assertion. Review of the comparative estimates by a authoritative independent third party, such as the General Accounting Office, is one means of addressing this deficiency.

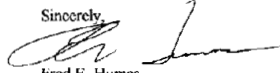
2

Both of these deficiencies are more acute if a plutonium finishing module is included in the pit disassembly or MOX fabrication process.

We fully support the national program to dispose of United States and Former Soviet Union weapons-capable nuclear materials, and look forward to final approval and authorization of the Surplus Plutonium Disposition program.

Thank you for the opportunity to provide comments on this very important national program.

Sincerely,



Fred E. Humes
Director



Fred E. Humes
Director

**Statement for the Record
Surplus Plutonium Disposition Draft
Environmental Impact Statement
August 13, 1998**

Good Afternoon, my name is Fred Humes and I am Director of the Economic Development Partnership, a non-profit organization with responsibility for economic development in both Aiken and Edgefield Counties. The Savannah River Site is an important and treasured part of our manufacturing community because its long history as a safe and environmentally responsible neighbor. We are proud of our role in helping to win the cold war, and we are equally proud of our future role in helping to reduce the nuclear danger by the disposition of excess plutonium from the weapons program. We are pleased and appreciative the Department has recognized the Site's capabilities for the Mixed Oxide Fuel fabrication and Immobilization portions of the disposition mission. We believe the identification of SRS for these two missions will provide the country the greatest assurance that plutonium will be prepared for fabrication and disposition in the safest, most efficient and most reliable manner.

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However, we are perplexed and concerned that DOE has not made the same determination regarding site selection for the Pit Disassembly and Conversion Facility. The draft EIS is replete with data which outlines the currently operational plutonium processing and radioactive waste management capabilities existing at SRS, and the document is equally clear that those same capabilities do not exist at the Pantex site. Therefore, in my opinion it is incredulous that the EIS concludes there are only "modest differences" between SRS and Pantex.

The data demonstrates there are significant differences between SRS and Pantex when evaluating the location for the Pit Disassembly and Conversion Facility:

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First and foremost, Savannah River has a forty-year history in all aspects of the safe handling and storage of plutonium. Savannah River's unparalleled safety record is the result of possessing a complete complement of specialized facilities and personnel with many years of "hands on" plutonium experience. Neither facilities nor the expertise exist at Pantex. Several hundreds of millions of dollars will be wasted just to build and operate new types of facilities needed for safe operations at Pantex: ranging from waste management to environmental monitoring to laboratory support facilities. But even if you wasted the dollars, you can never make up for the lack of plutonium experience in the Pantex workforce. Operating proficiency at Pantex could only be gained after many years of trial and error - years with inevitable low productivity, operating error... safety incidents and environmental releases. It is irresponsible for DOE to

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FD313-3

Alternatives

DOE acknowledges the commentor's support for siting the immobilization and MOX facilities at SRS. As indicated in Section 1.6, the preferred can-in-canister approach at SRS complements existing missions, takes advantage of existing infrastructure and staff expertise, and enables DOE to use an existing facility (DWPF). DOE is presently considering a replacement process for the in-tank precipitation (ITP) process at SRS. The ITP process was intended to separate soluble high-activity radionuclides (i.e., cesium, strontium, uranium, and plutonium) from liquid HLW before vitrifying the high-activity fraction of the waste in DWPF. The ITP process as presently configured cannot achieve production goals and safety requirements for processing HLW. Three alternative processes are being evaluated by DOE: ion exchange, small tank precipitation, and direct grout. DOE's preferred immobilization technology (can-in-canister) and immobilization site (SRS) are dependent upon DWPF providing vitrified HLW with sufficient radioactivity. DOE is confident that the technical solution will be available at SRS by using radioactive cesium from the ion exchange or small tank precipitation process. A supplemental EIS (DOE/EIS-0082-S2) on the operation of DWPF and associated ITP alternatives is being prepared.

SRS is also preferred for the MOX facility because this activity complements existing missions and takes advantage of existing infrastructure and staff expertise. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

FD313-4

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure.

ECONOMIC DEVELOPMENT PARTNERSHIP
FRED E. HUMES
PAGE 4 OF 5

impose on an inexperienced Pantex workforce these operational, safety and environmental problems, let alone on the citizens of the Texas panhandle.

The second compelling difference between Savannah River and Pantex is economics. The draft EIS describes the many facilities and operating capabilities that currently exist at Savannah River that will have to be duplicated at Pantex. Additionally, the document identifies the many instances of synergy that exist only at Savannah River as the PD&CF shares capabilities with current missions and the Immobilization mission. These differences exist today and cannot be dismissed as "within the uncertainty of cost estimates." Our region is competitive with all areas of the country in regards to construction and operations wage rates. In the private sector, we compete daily on an international basis for industries to locate in our area - and we are very successful. In the last two years, over two billion dollars in new private sector investment were announced in the Aiken-Augusta area - business decisions that were made because of our skilled labor force, competitive wage structure, and favorable business climate. Therefore, I do not agree with your conclusion that Pantex operating costs are less than Savannah River, or that total costs could be within seven percent.

The third significant difference between Savannah River and Pantex is the broad base of community support for SRS activities. This support includes two states, two Congressional Delegations, urban and rural constituents, site workers and people with no connection with SRS. That support is grounded in the knowledge that SRS has a paramount concern for safety, and that the site has a positive impact on the economic, social, cultural and educational base in our area. This relationship is priceless in today's environment, and provides DOE with confidence that programs assigned to the SRS will be carried out as planned.

A fourth consideration is the potential need to incorporate a Plutonium Polishing module in the pit conversion facility. Processing facilities, personnel expertise, and infrastructure to meet this need are currently operational at the Savannah River Site; the same capability does not exist at Pantex. Savannah River facilities are sufficiently flexible to accommodate all foreseen polishing requirements, guaranteeing a reliable supply MOX-grade plutonium oxide to the fuel fabrication vendor. Once again, the assignment of the Pit Disassembly and Conversion Facility to Savannah River will assure the safe performance of this critical step, save the taxpayer tens of millions of dollars and provide the highest confidence that the Plutonium Disposition mission is conducted in the most expeditious manner.

Specific comments on the draft EIS are as follows:

1. Revise the Environmental Consequences analyses for the Pantex alternatives to appropriately reflect the increased probability of environmental releases and safety concerns resulting from operational errors as Pantex employees go through the learning curve associated with handling and processing plutonium. Input from

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FD313

FD313-5**Other**

All candidate sites have strong community and elected official support. In addition, the candidate sites are equally suitable from a safety and conduct of operations standpoint and all sites must comply with DOE environmental, safety, and health requirements.

Based on public comments received on the SPD Draft EIS, and the analysis performed as part of the MOX procurement, DOE decided to propose plutonium polishing as a component of the MOX facility to ensure adequate impurity removal from the plutonium dioxide.

The remainder of this comment is addressed in response FD313-2.

FD313-6**Facility Accidents**

This comment is addressed in response FD313-1.

the Defense Nuclear Facilities Safety Board could assist in this evaluation. | 6

2. Submit your comparative cost estimates to an outside third-party review to assure that the operational and estimating basis for construction and operating costs, and required infrastructure are on a totally comparable basis. The General Accounting Office is one possible source for this review. | 7

My final comment is that we not lose sight of the important objective that you are implementing - that being to safely dispose of the excess supply of weapons capable plutonium. This is extremely important - both today and for future generations. Because of that importance and urgency, it must be entrusted to those who have demonstrated the capability to safely perform the mission. Now is not the time to train rookies. Now is the time for the first team to be in the game. The clear choice for the Pit Disassembly and Conversion Facility is the Savannah River Site! | 8

Thank you for the opportunity to present these comments.

FD313

FD313-7

Cost Report

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. The cost report was independently reviewed by an outside architect-engineering firm before being released to the public. Any future updates to this report will also be independently reviewed.

FD313-8

Alternatives

This comment is addressed in response FD313-4.



United States
Department
of Energy

Comment Form

NAME: (Optional) W. Glenn Fidds
ADDRESS: 841 Hickory Ridge Rd Aiken SC 29003
TELEPHONE: (803) 648-6696
E-MAIL:

I was born and raised in Augusta, Ga. and have lived here (area) for all but 3 years of my life. As a young boy of 12 to 17 years old and since, I have been exposed to the professionalism and safety attitudes of SRP/SRS employees. I have worked at several distant industrial sites in the CSRA before going to work at SRP in 1984. The positive influence that I had experienced from people who work at SRS, both before and since my employment, convinces me that SRS would be the safest place to locate all Pu missions. I personally know & experience the dedication to safety and professionalism of SRS employees every day. I am confident that the best place for Pu missions, from all aspects of consideration is SRS.

SCD62-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

FIRST BAPTIST CHURCH OF AIKEN
FRED W. ANDREA, III
PAGE 1 OF 1



August 13, 1998

Gentlemen and Ladies:

Good afternoon. I am Fred Andrea, Senior Pastor of First Baptist Church in Aiken, South Carolina. I am here to express my support for SRS and its employees. Many of the employees are members of my church family.

SRS and its employees are special to this community. Their contributions to our nation's security are many and significant. Over the last five years, SRS has lost over 10,000 jobs, yet the employees and this community have never lost their faith in the future or their commitment to continue the long history of safe and effective operations at SRS.

We know that the capabilities that exist at SRS are not found at the other DOE sites. We know that the Plutonium Disposition Missions which are so important to our national and international security require these capabilities. The decision should be easy but, for some reason, may become far more complicated than necessary. Of course, there being absolutely no politics in the local church, you would understand that I know nothing whatsoever about such matters. I trust and pray that this decision will not be determined by political considerations.

In fact, I am here today to let you know that, as a minister, I will be going to a higher authority than elected officials to encourage the Department of Energy to make the right decision for this nation and its taxpayers!

Seriously, Savannah River Site is the right choice for this mission. Impeccable safety and environmental protection records, cost effective operations, existing operating infrastructure, plutonium experience and expertise, and a second-to-none community support level undergird the soundness of this choice.

Thank you for this opportunity to express my wholehearted support for Savannah River Site. I do pledge my earnest prayers for wisdom and courage as this significant decision is made.

Yours sincerely,

Fred W. Andrea III

FWA:ean

Post Office Box 3157 ■ Aiken, South Carolina 29802-3157 ■ York Street at Richlar

■ Fax (803) 648-4453

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SCD23

SCD23-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

August 31, 1998

U. S. Department of Energy
Office of Fissile Materials Disposition
SPD EIS
P. O. Box 23786
Washington, DC 20026-3786

COMMENTS ON SURPLUS PLUTONIUM DISPOSITION
ENVIRONMENTAL IMPACT STATEMENT
& COST REPORT

I. EIS Inadequacies

- Appendix N, Plutonium Polishing, shows that an aqueous process can purify plutonium and produce plutonium oxide with very little waste. Since dissolving plutonium metal is easier than dissolving plutonium oxide, it stands to reason that direct dissolving of pits is a reasonable alternative. The alternative of dissolving pits using a facility and process similar to that described in Appendix N must be included and assessed versus the proposed dry process for pit conversion to have a valid NEPA document. 1
- The frequency, consequence, and risk of airplane crashes into plutonium facilities at Pantex has been changing in each document issued by DOE. It seems that these risks have been declining because DOE has been finding ways to justify less conservative methodologies. DOE should use the standard NRC methodology (NUREG 0800) for calculating the risk associated with an airplane incident. This is the only widely accepted methodology in this country for analysis of nuclear facilities subject to airplane crashes. 2
- The Nuclear Weapons and Material Monitor reported that there was an Appendix B which evaluated an aqueous alternative for pit conversion and concluded that it could be done faster and used proven technology. This option cannot be withheld from the EIS. 3
- The EIS claims that the proposed dry process for pit conversion produces less waste. This is truly puzzling. There is no data in the EIS to support this claim. Appendix N shows aqueous processes can be operated to produce very little waste. 4
- If you used an aqueous process to make pure plutonium oxide, there would be big savings in the cost and environmental impact of both the MOX and immobilization plants. The plants could be smaller, less automated, and much less R&D would be required. The choice of 5

MD131

MD131-1 **Plutonium Polishing and Aqueous Processing**

DOE determined that aqueous processing was not a reasonable alternative for pit conversion because current aqueous processes using existing facilities would produce significant amounts of waste, and aqueous processing would complicate international safeguard regimes. Dry processing was analyzed in the *Storage and Disposition PEIS* and this SPD EIS. DOE is currently demonstrating the dry plutonium conversion process as an integrated system at LANL. This activity is described in the *Pit Disassembly and Conversion Demonstration EA* (DOE/EA-1207, August 1998), which is available on the MD Web site at <http://www.doe-md.com>. There is no alternative in this SPD EIS that evaluates dissolving pits.

DOE is not including the plutonium-polishing process (a small-scale aqueous process) as part of the pit conversion facility; that process would be part of the MOX facility. DOE would use only dry processes in the pit conversion facility. For this reason, the thermal process for removing gallium may not be needed in the pit conversion facility (see revised Section 2.4.1.2). Plutonium dioxide is the starting form for the disposition of surplus plutonium for either the immobilization or MOX fuel approach.

On the basis of public comments received on the SPD Draft EIS, and the analysis performed as part of the MOX procurement, DOE has included plutonium polishing as a component of the MOX facility to ensure adequate impurity removal from the plutonium dioxide. Appendix N was deleted from the SPD Final EIS, and the impacts discussed therein were added to the impacts sections presented for the MOX facility in Chapter 4 of Volume I. Section 2.18.3 was also revised to include the impacts associated with plutonium polishing.

MD131-2 **Facility Accidents**

DOE published a standard to address the issue of aircraft crash analysis entitled, *Accident Analysis for Aircraft Crash Into Hazardous Facilities* (DOE-STD-3014-96, October 1996). DOE was cognizant of NRC NUREG-0800 in its development of DOE-STD-3014. The method outlined in DOE-STD-3014 is the one used for this SPD EIS. Estimated frequencies, consequences, and risks of aircraft crashes depend on a number of factors, such as building size

and shape; building robustness; and the quantity, form, and containment characteristics of the hazardous material. As a result, one would not expect to see the same numbers published for differing applications of the same methodology, namely, that of DOE-STD-3014. The frequency of aircraft crashes into a pit conversion or MOX facility is lower than that of crashes into the entirety of Zone 4 or Zone 12 mainly because the facilities are smaller than the zones.

MD131-3 Plutonium Polishing and Aqueous Processing

This comment is addressed in response MD131-1.

MD131-4 Waste Management

The *Storage and Disposition PEIS* evaluated an aqueous plutonium conversion process similar to that used in the SRS canyons. A plutonium conversion process is needed to convert plutonium metal to an oxide for use in either the immobilization or MOX facility. Compared with the dry conversion processes evaluated in this SPD EIS for use in the pit conversion and immobilization facilities, the aqueous conversion process evaluated in the PEIS would generate significantly more radioactive waste as shown below:

Type of Waste (m ³ /yr)	PEIS Plutonium Conversion	SPD EIS	
		Pit Conversion	Immobilization
LLW	1,799	60	81
Mixed LLW	191	1	1
TRU	472	18	95

MD131-5 Plutonium Polishing and Aqueous Processing

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as

SPD EIS AND COST REPORT COMMENTS

aqueous vs. dry for pit conversion must include the impact on downstream processes to be valid.. 5

- The dry process for pit disassembly and conversion was advertised as smaller and cheaper than traditional (aqueous) processes. This EIS says this facility is 186,000 sq. ft. That's bigger than a canyon building! This doesn't seem to be smaller and cheaper! 6

- A recent amendment to the MOX RFP says DOE will pay the delay cost associated with failure to deliver acceptable PuO₂ on schedule. This change seems to represent the vendors lack of confidence in DOE's plan to use ARIES-produced oxide. 7

- A pit disassembly and conversion plant at Pantex will have to high-fire the plutonium oxide to comply with DOE Standard 3013 for shipment and storage. The high-fired oxide is unlikely to be usable for either MOX or immobilization without extensive pretreatment. If aqueous polishing is required, the Oak Ridge reports says the feed cannot be high-fired. At the public meeting DOE said maybe they wouldn't comply with Standard 3013. Has the transportation and storage of non-3013 oxide produced by the pit disassembly plant been reviewed with the DNFSB? They are unlikely to agree with this approach – particularly given Congress's expressed reluctance to proceed beyond pit disassembly and conversion anytime soon, the likelihood of extended storage is very real. Also, was the EIS accident and transportation analysis based on fine dispersible low-fired powder typical of aqueous produced oxides, or the high-fired clinkers likely to be produced by TIGR or direct oxidation methodologies? 8

- The F-Canyon and New Special Recovery (NSR) facility at SRS capable of doing the conversion of plutonium metal from pits to plutonium oxide (NSR was ready to start up on this program in 1991). There is no analysis of the savings possible by using existing facilities at SRS for converting plutonium to the oxide form for MOX or immobilization. Since the SRS facilities are already operating and have most of the capabilities needed for this activity, there would be a big savings of time, investment, and future cleanup. The EIS must include an analysis of this obviously available and reasonable strategy to be valid and complete. Since all of the commercial MOX plants in Europe use aqueous feed prep techniques, this is certainly a reasonable approach which must be analyzed. 9

- Appendix N, Plutonium Polishing, is presented as a "contingency". What is the legal status of a "contingency" or an Appendix? Generally a NEPA issue has to be presented as part of the proposed action, available for public review and comment, to be a legal basis for decision. 10

- The basis for the determination of the split of material to MOX or immobilization has not been presented in the EIS for public review. Some DOE documents report the quantity of "clean" metal and oxide significantly higher than 33MT. The 17 MT planned for immobilization are, in fact, not all low plutonium content and low purity. In fact, a large part is already FFTF MOX fuel. Where are the studies and where are the costs for determining this split need to be presented for public review. 11

the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. This new report includes the cost associated with plutonium polishing in the estimates for the MOX facility.

The remainder of this comment is addressed in response MD131-1.

MD131-6

Pit Disassembly and Conversion

The space needed for the dry process is expected to be smaller than that needed for the aqueous process. The estimated maximum floor space required for the proposed pit conversion facility using the dry process is approximately 8,055 m² (186,700 ft²) for Pantex. The canyons at SRS are much larger than the proposed pit conversion facility. The footprint alone of F-Canyon is over 23,876 m² (257,000 ft²). If one were to add up all of available floor space throughout the building, it would be over 464,515 m² (500,000 ft²).

MD131-7

MOX RFP

The failure or delay of DOE to deliver plutonium dioxide to the contractor according to schedule would require the contractor to supply its mission reactors with replacement LEU fuel at increased costs. This amendment to the RFP is for the protection of the contractor, regardless of the source of the delay in providing the plutonium dioxide.

MD131-8

Pit Disassembly and Conversion

It is not certain that plutonium dioxide would have to be high-temperature fired prior to shipment and storage to meet the DOE 3013 standard, *Criteria for Preparing and Packaging Plutonium Metals and Oxides for Long-Term Storage*. High-temperature-fired dioxide can be used for either the immobilization or MOX approach; it just does not dissolve as readily as material that has not been subjected to the higher temperatures. The report to which the commentor may be referring, *Final Data Report Response to*

the Draft Surplus Plutonium Disposition Environmental Impact Statement Data Call for Generic Site Add-On Facility for Plutonium Polishing (ORNL/TM-13669, June 1998) indicates that it is better not to subject the plutonium dioxide to the higher-temperature processing, but does not indicate that plutonium dioxide processed at higher temperatures is unacceptable as feed for either immobilization or MOX fuel fabrication. The transportation analysis assumes the oxides would be in compliance with the DOE 3013 standard.

The remainder of this comment is addressed in response MD131-1.

MD131-9 Plutonium Polishing and Aqueous Processing

Use of F-Canyon at SRS to convert plutonium for use in either the immobilization or MOX facility would require reconfiguring the canyon and keeping it in operation for another 10 years or more. DOE has already made a commitment to the public, the U.S. Congress, and DNFSB to shut the canyon down. DOE presented the SRS Chemical Separation Facilities Multi-Year Plan to Congress in 1997. This plan provides the DOE strategy for the expeditious stabilization of SRS nuclear materials in accordance with DNFSB Recommendation 94-1, and provides for the early stabilization of certain limited quantities of plutonium materials from RFETS. Once this stabilization effort was complete, the canyon would be shut down and D&D activities would begin. In addition, this process would make the surplus material considerably more weapons-usable, and as such would not fulfill the purpose and need of the proposed action.

The remainder of this comment is addressed in response MD131-5.

MD131-10 Plutonium Polishing and Aqueous Processing

CEQ regulations for NEPA in 40 CFR 1502.18 state that an appendix shall: (a) consist of material prepared in connection with an EIS (as distinct from material which is not so prepared and which is incorporated by reference); (b) normally consist of material which substantiates any analysis fundamental to the EIS; (c) normally be analytic and relevant to the decision to be made; and (d) be circulated with the EIS or be readily available on request. In accordance with CEQ regulations, lengthy technical discussions of modeling

methodology, baseline studies, or other work are best reserved for an appendix. In other words, if technically trained individuals are the only ones likely to understand a particular discussion, then that discussion should be included as an appendix, and a plain language summary of the analysis and conclusions of that technical discussion should be included in the text of the EIS.

MD131-11

DOE Policy

The quantities and locations of surplus weapons-grade plutonium material are discussed in Chapter 1 of the *Storage and Disposition PEIS*. As shown in Section 2.2.1 of the PEIS, Hanford had 11 t (12.1 tons) of plutonium material, of which only about 4 t (4.4 tons) fell within the scope of weapons-usable plutonium as defined in the document. The *Storage and Disposition PEIS* ROD determined that DOE would immobilize at least 8 t (9 tons) because it was not suitable for MOX fuel fabrication due to the complexity, timing, and cost that would be involved in purifying these materials. As described in this SPD EIS, DOE identified an additional 9 t (10 tons) of plutonium as unsuitable for the same reasons. For analysis purposes, this EIS assesses the environmental impacts of implementing the hybrid approach (immobilizing 17 t [19 tons] of surplus plutonium and using 33 t [36 tons] for MOX fuel) and immobilizing all 50 t (55 tons) of surplus plutonium.

SPD EIS AND COST REPORT COMMENTS

- DOE is preparing to perform a large scale demonstration of the ARIES process at LANL using a separate local EA as the NEPA basis. Since this activity is intimately connected with the pit disassembly and conversion proposal, this LANL activity should be analyzed in the SPD EIS, not a separate document. What is the plan for storing the oxide product of this demonstration and where is the NEPA coverage? The Los Alamos vaults are apparently full since Los Alamos is asking SRS to take some material to prevent shutdown of their development program. 12
- The MOX Request for Proposal (RFP) has been revised five times since its original issue just over three months ago in May. MOX feed is now described as being produced by a "dry process" rather than the original hydride-dehydride process. What is the significance of this change? What process is described in the EIS? Will the EIS be revised to incorporate the evolving process proposed for Pit Disassembly and Conversion? 13
- EM is going to use the SRS FB-Line facilities to declassify a large quantity of plutonium metal from Rocky Flats. These facilities could be used for a similar "Quick Start" approach for pits? It is likely that most of the pits could be demilitarized, declassified, and prepared for safe storage using existing facilities at SRS before the program as currently envisioned could even begin. Since this is obviously a fast, cheap approach using existing facilities, it is also a reasonable approach which must be analyzed in the EIS. 14
- The Cost Report says the pit disassembly and conversion facility will begin operation in 2004. This is a \$500 million dollar facility using first-of-a-kind technology. DOE has been unable to bring any facility of this size on-line in less than 10 years, and 15-20 is not unusual, since the early days of the Manhattan project, much less one using undemonstrated technology. This is simply not a reasonable basis for NEPA analysis. 15
- The EIS (page S-27) says the MOX campaign will require 11 years to disposition plutonium. The MOX RFP says 15 plus. Pit disassembly and conversion and immobilization are still in the early R&D stages. And, no SNM processing facilities have ever been built in a three-year timeframe by DOE in recent decades. None of these schedules have any basis in reality, nor are they a realistic basis for NEPA analysis. An overly optimistic schedule is not bounding in NEPA terms. An extended schedule results in greater waste, exposure, risk, and impact. 16
- The dry process for disassembly and conversion will leave residual plutonium contamination on thousands of highly enriched uranium parts making them unsuitable for shipment to Oak Ridge as described in the EIS. The only technology currently used for decontamination of uranium pieces like this is aqueous-based. Where is this described in the EIS. I don't see this process and its wastes in the pit disassembly description. 17

R. L. Geddes

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MD131

MD131-12

Pit Demonstration EA

DOE believes that it took the correct NEPA approach with regard to the action proposed in the *Pit Disassembly and Conversion Demonstration EA* (DOE/EA-1207, August 1998), and that this action does not prejudice future action under this SPD EIS. In that EA, DOE proposed a limited-scope demonstration at LANL to test an integrated pit disassembly and conversion process on a relatively small sample of plutonium pits (250) and metals. The information gathered from the demonstration will be used to supplement information developed to support the construction of a full-scale pit conversion facility, if DOE decides to build such a facility based on analysis presented in this SPD EIS. In compliance with DOE's NEPA regulations (10 CFR 1021), that EA discussed the No Action Alternative in addition to the proposed action. Based on the analysis in the EA, DOE concluded that the proposed action did not constitute a major Federal action affecting the environmental quality, and therefore issued a FONSI on August 14, 1998.

The plutonium metal and dioxide that will be produced during the demonstration will be staged in existing special nuclear material storage facilities at LANL until a decision is made on the ultimate disposition strategy. The resulting plutonium metal and dioxide will be suitable for disposition either using immobilization or for use in MOX fuel. No new storage construction will be required, and there will be no need to increase the storage limits of the existing facilities. The demonstration will result in a small net increase in the amount of surplus plutonium at LANL. DOE intends to ship LANL's total surplus plutonium to the disposition site or sites that are chosen as a part of the ROD for this SPD EIS. These demonstration storage activities are part of the ongoing operations discussed in the *Site-Wide Environmental Impact Statement on the Continued Operation of the Los Alamos National Laboratory* (DOE/EIS-0238, January 1999), which is incorporated by reference in the *Pit Disassembly and Conversion Demonstration EA*.

MD131-13

Pit Disassembly and Conversion

The HYDOX (dry) process described for the pit conversion facility in Section 2.4.1.2 is a process for converting plutonium metal with certain impurities to a plutonium dioxide with a minimum of impurities. In the HYDOX process, the pit hemishells (i.e., nonpit plutonium metal) would be placed

into the HYDOX module, where the metal would be exposed to and react with hydrogen, then nitrogen, and finally oxygen at controlled temperatures and pressures to produce plutonium dioxide. This is one variation of the basic hydride-dehydride process; another would produce a metal rather than an oxide. The process described in this SPD EIS is not only representative of the proposed process, but is bounding for potential impacts, including accidents. However, a pit disassembly and conversion demonstration aimed at optimizing process operations for the pit conversion facility is under way at LANL. Should evidence from that demonstration or other research invalidate the analyses reflected in this EIS, additional NEPA documentation would be prepared.

MD131-14 Plutonium Polishing and Aqueous Processing

While the SRS FB-Line and associated facilities could be configured to disassemble and declassify pits leaving the plutonium in the metal form, the surplus plutonium disposition program requires that the plutonium metal be converted to oxide for subsequent disposition actions. Therefore, additional processing would be required later to complete the disposition objective. In addition, use of FB-Line for this function would extend its life beyond the timeframe that DOE currently intends to operate this facility.

MD131-15 Pit Disassembly and Conversion

The ability to bring a Government facility on line depends largely on the ability to obtain the required level of congressional funding. Nevertheless, DOE needs to estimate the duration of the construction period in order to assess potential environmental impacts. Based on experience with similar facilities, DOE estimates that it would take 3 years to construct the pit conversion facility. If congressional funding were secured after the ROD was issued, construction could start in 2001, with facility operation beginning in 2004. The 3-year construction period would result in potential impacts more intense than those spread over a longer period.

While it is true that the pit conversion facility is the first consolidated facility for accomplishing this mission on a large scale, the processes that would be used in this facility are not entirely new. Many of these processes are in use at LANL and LLNL. In addition, DOE has recently started a pit disassembly and conversion demonstration project at LANL, where processes will be further developed and tested.

MD131-16

Alternatives

DOE acknowledges the commentor's concern about the timeframe for the surplus plutonium disposition program. The schedules presented in Appendix E reflect the design, construction, and operation timeframes DOE has proposed for the surplus plutonium disposition facilities. DOE believes that these schedules can be met and has used them to evaluate the potential impacts of its proposed actions. DOE's MOX RFP specified a timetable including first insertion of production, not test, fuel no later than the end of calendar year 2007, and a date of last insertion no later than 2019. This timetable was acceptable to DCS, the team that was selected for this effort. However, because there could be some delays associated with issues such as negotiations with other countries, Section 4.30.2 includes a discussion of incremental impacts of variations in that schedule. As explained in that section, certain impacts (e.g., exposure) would occur only or primarily during processing, and the total impacts would not change even if the processing schedule were extended or shortened. For example, if the operating period of the MOX facility were extended by 1 year, the total dose and LCFs for the worker and the public would remain essentially unchanged, though the annual dose would be expected to decrease. If the facility were not operating, or operating at a lower throughput, the dose rate would be lower. Then the only contributors would be small amounts of internal equipment contamination and material in highly shielded storage, and presumably fewer workers would be at the facility. Total impacts from these internal sources, however, would depend on the period of operations; lengthening operations for 1 year would mean continued impacts at the levels described in Chapter 4 of Volume I for 1 year or longer.

MD131-17

Waste Management

Section 2.4.1.2 of the SPD Draft EIS states that HEU and classified metal shapes would be decontaminated. Waste volumes listed in Chapter 4 of Volume I and Appendix H include wastes generated by the HEU decontamination process.

SPD EIS AND COST REPORT COMMENTS

II. Plutonium Missions/Plutonium Sites/Plutonium Infrastructure

- In the Cost Report (Table ES-2) a number of infrastructure deficiencies at Pantex needed to support the Disposition Programs are identified, including the following:
 1. SNM processing capability
 2. Radioactive waste management capability
 3. A Source Calibration facility (The new Source Calibration facility at SRS cost about \$35M)
 4. A plutonium analytical lab

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These infrastructure improvements would cost hundreds of millions of dollars to construct and operate - in addition, the experience of existing plutonium sites shows that the cost to clean up and remove them at the end of the mission will be even more. It appears that these costs have not been included in the Cost Report. These costs must be developed and considered for a valid cost analysis, including a life cycle cost incorporating ultimate D&D.

- In 1996 DOE decided that Pantex was not suitable for a plutonium mission because "plutonium would not be introduced into a site that does not currently have a plutonium infrastructure because of the high cost of new plutonium facilities and the complexity of introducing plutonium operations into sites without current capabilities." (Stockpile Stewardship FIS). The 1996 policy was established during consideration of Pantex (and other sites) as potential locations for a pit manufacturing mission. Pantex was disqualified from consideration on the basis of this policy. Pit manufacturing and pit disassembly and conversion have a number of similarities. Both processes are "dry" and involve handling of both the plutonium and associated pit parts. But compared to pit manufacturing, the Disposition Program function of pit disassembly and conversion involves a much larger quantity of plutonium and produces plutonium oxide rather than the much easier to manage metallic form. If it is too expensive and complex to introduce pit manufacturing into a non-plutonium site, then surely it must be dramatically less desirable to introduce pit disassembly and conversion.
- DOE explains that its preference for immobilization at SRS "complements existing missions and takes advantage of existing infrastructure and staff expertise". (Page S-9). In the June 23, 1998 MOX announcement, DOE said its preference for MOX at SRS was because this mission "complements existing missions and takes advantage of existing infrastructure and staff expertise", and that Pantex "does not offer a comparable infrastructure including waste management." The plutonium processing required for the pit disassembly and conversion mission is essentially the same as that required for MOX. Pantex cannot be "equally preferred" since there are no existing complementary missions at Pantex, there is no existing infrastructure and staff expertise that can be applied to pit disassembly and conversion, and the Cost Report identifies significant inadequacies in the Pantex infrastructure.
- DOE is certainly very responsive to some of the public. "During the scoping process, the comment was made that Pantex should be considered for the pit conversion facility", and three options were added. The EIS claims such comments were screened against three

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MD131-18

Cost Report

Because this comment relates directly to the cost analysis report, it has been forwarded to the cost analysis team for consideration. The *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, is available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

MD131-19

Alternatives

The *Final Programmatic Environmental Impact Statement for Stockpile Stewardship and Management* (SSM PEIS) (DOE/EIS-0236, September 1996) states that the pit fabrication mission would not be introduced into a site that does not have an existing plutonium infrastructure because of the high cost of new plutonium facilities and the complexity of introducing plutonium operations into sites without current plutonium capabilities. The SSM PEIS states further that an important element of the site selection strategy is maximizing the use of existing infrastructure and facilities as the nuclear weapons complex becomes smaller and more efficient in the 21st century; thus, no new facilities were to be built to accommodate stockpile management missions. Accordingly, DOE considered as reasonable only those sites with existing infrastructure capable of supporting a pit fabrication mission. Although Pantex has the infrastructure to carry out its current weapons assembly and disassembly mission and a nonintrusive pit reuse program, it was not considered a viable alternative for the pit fabrication mission because it did not possess sufficient capability and infrastructure to meet the SSM PEIS siting assumption stated above. Among the operations that were considered in developing siting alternatives for pit fabrication in the SSM PEIS were plutonium foundry and mechanical processes including casting, shaping, machining, and bonding; a plutonium-processing capability for extracting and purifying plutonium to a reusable form either from pits or residues; and assembly operations involving seal welding and postassembly processing.

When comparing the site selection strategy for pit disassembly and conversion mission with that used for the pit fabrication mission, the siting criteria in the SSM PEIS has little or no bearing on siting criteria use in this SPD EIS. Pit disassembly and conversion do not require the foundry and mechanical

processes discussed in the SSM PEIS and can be accomplished in a stand-alone facility. Also, the SSM PEIS siting assumptions include a requirement to use existing facilities, whereas, the pit conversion facility would be a new structure no matter where it is located.

MD131–20

Alternatives

The initial preference for Pantex and SRS as sites for the pit conversion facility was based on a determination by DOE that the differences in environmental impacts were modest, and thus did not warrant the preference of one site over the other. Existing infrastructure that supported placement of the pit conversion facility at Pantex included security, staff expertise, and the presence of the pits that need to be dismantled. Costs for all required infrastructure were estimated, and even with the additional waste management and infrastructure support needed at Pantex, the cost differences were not considered significant.

As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure.

MD131–21

Alternatives

Pantex was identified as a candidate site for both the pit conversion and MOX facilities in the NOI. The alternatives that were added after the scoping process to include Pantex as a candidate site for pit conversion were associated with the immobilization-only options; Pantex had already been identified as a candidate site for the pit conversion facility for a number of the hybrid alternatives. As discussed in Section 2.3.1, these options were added after DOE confirmed that they met all the screening criteria.

SPD EIS AND COST REPORT COMMENTS

criteria, one of which was infrastructure cost. Since Pantex has no plutonium infrastructure, it logically could not pass this screen.	21
• For both safety and security reasons, it is important that there be a large buffer zone around plutonium facilities. The fact that the distance to the sight boundary at SRS is at least 5X that existing at Pantex should be a significant discriminator. A plutonium release at Pantex would reach the site boundary before an public evacuation notice could be issued.	22
III. Program Costs	
• The Cost Report says it "does not incorporate possible synergies between co-locating disposition facilities at one site" (page 3.3). This information is required to make a valid decision.	23
• The Cost Report shows the answers of MD's analysis of the cost of various options. But since there is no backup/worksheet data publicly available – how is the public supposed to draw any confidence in the veracity and credibility of this analysis. The full analysis needs to be available for review and comment.	24
• The Cost Report (page 1-10) says DOE's estimate for the immobilization facility was determined on a square foot basis based on experience with similar projects. What were those similar projects? Most of the large comparable nuclear facilities built in this country in the last 15 years have been built at SRS (e.g., DWPF, NSR, HB-Line, RTF) and all of them were significantly more per square foot (even 10-15 years ago!) than the Cost Report estimates for new facilities (\$450M/108,000 sq. ft = \$4200).	25
• Both the MOX and Immobilization facilities are estimated at about \$4200/sq. ft. The cost per square foot of the pit disassembly and conversion facility is much less, about \$2900 per sq. ft. of hardened space? (\$440M/~150,000 sq. ft. = \$2900). Since the facilities are similar in size and all are plutonium oxide processing facilities it seems logical the cost per square foot would be similar.	26
• The construction of a MOX plant is estimated at \$510M for both Pantex and SRS. Yet the Pantex plant is bigger in the EIS, and the Cost Report has identified the major deficiencies in the infrastructure at Pantex which would have to be added to support a MOX operation. The cost of a MOX operation at Pantex must be much higher than at SRS.	23
• Some of the construction data is inconsistent. For instance, the MOX plant (120,000 sq. ft.) requires about 50% more construction manpower than the pit disassembly and conversion facility (~150,000 sq. ft.).	24
• Penalizing sites other than Pantex with an \$80 million dollar charge for packaging and shipping pits to a pit disassembly facility elsewhere (page 3-4) is not a valid charge. Shipping plutonium oxide from Pantex to SRS for disposition would cost more than shipping	25

MD131-22

Human Health Risk

Appendixes K.4 and K.5 present the hypothetical maximum accident impacts on a receptor at each site boundary. Although calculations show that most accidents would yield somewhat higher doses to this receptor at Pantex—given the proximity of the boundary to the release location, the meteorology, and other factors—the differences from the perspective of health risk would, in most cases, likely be minor. This assertion is warranted by the cancer risk values stipulated in Tables K-12, K-13, K-14, and K-25.

MD131-23

Cost Report

This comment is addressed in response MD131-18.

MD131-24

Cost Report

This comment is addressed in response MD131-18.

MD131-25

Cost Report

This comment is addressed in response MD131-18.

MD131-26

Cost Report

This comment is addressed in response MD131-18.

SPD EIS AND COST REPORT COMMENTS

pits. Plutonium oxide requires more shipments, requires a more extensive packaging operation, and uses higher cost shipping and storage containers than shipping pits. 25

- Safeguards and MC&A requirements are significantly different and more complex for handling plutonium in bulk forms rather than the piece counts employed at Pantex. The Cost Report needs to incorporate the cost and schedule impacts of major safeguards and MC&A upgrades at Pantex. 26

IV. Pit Storage, Transportation, and Safety

- The storage of pits at Pantex is inadequate. The GAO issued a report in April saying worker's health and safety have been placed at risk. The Defense Board says that DOE's efforts to improve storage "appear confused" and lack technical basis. Since the plutonium will have to come to SRS for MOX or immobilization anyway, it makes sense to pack and ship as soon as possible and avoid a large cost to upgrade pit storage. Pit disassembly and Conversion at Pantex means surplus pits will remain in inadequate storage for nearly 20 more years. A scenario where pits are retained at Pantex until at least 2015 must include the cost of upgrading pit storage. This cost could easily be more than a hundred million dollars. The EIS should consider alternatives for early shipment of pits to SRS. SRS already has NEPA coverage to transport and store up to 20,000 pits in P-Reactor (Pantex EIS), or could add a module to APSF for pits. 27

- In the 1997 PEIS Record of Decision DOE said that it would store surplus pits awaiting disposition in upgraded facilities at Zone 12 at Pantex by 2004. There does not appear to be any current significant progress in this effort. DOE needs to acknowledge such, and revise the NEPA coverage of pit storage at Pantex. The SPD EIS does not seem to address the exposure, waste, risk, etc. of packaging and shipping all the surplus pits from their current temporary storage in Zone 4 to these upgraded facilities in Zone 12, then moved back again to a pit disassembly facility located in Zone 4. This information needs to be added to the EIS and compared to early transfer to SRS. 28

- Locating pit disassembly and conversion at Pantex could be viewed from a safety perspective in the following way:
 - DOE is proposing to convert sealed plutonium metallic components into a large quantity of dispersible plutonium oxide – then store it directly in the flight path of the Amarillo airport in a facility near bunkers of high explosives and nuclear warheads.
 - Then DOE must ship a dispersible form of plutonium in quantities far larger than has ever been shipped before.
 The Summary of the EIS should explain the logic of this (Option 5A for instance) from a safety perspective. 29

- The EIS transportation data show a significant transportation safety advantage and essentially no more total shipping by co-locating all three disposition programs at SRS. Since the only explanation given for adding Pantex to the program as a processing site was because the pits were there and that might mean a transportation advantage for this option, there now data to eliminate Pantex, especially since it has no history of plutonium work. 30

MD131–27 Storage and Disposition PEIS and ROD

DOE acknowledges the commentor's concern regarding the storage of plutonium pits at Pantex. DOE is committed to the safe, secure storage of pits and is evaluating options for upgrades to Pantex Zone 4 facilities to address plutonium storage requirements. DOE has addressed some of the commentor's concerns in an environmental review concerning the repackaging of Pantex pits into a more robust container. This evaluation is documented in the *Supplement Analysis for: Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components–AL–R8 Sealed Insert Container* (August 1998). This document is on the MD Web site at <http://www.doe-md.com>. Based on this supplement analysis, the decision was made to repackage pits at Pantex into the AL–R8 sealed insert container and to discontinue plans to repackage pits into the AT–400A container.

MD131–28 Storage and Disposition PEIS and ROD

Worker exposure estimates attributable to the decision to repackage pits in AL–R8 sealed insert containers were incorporated in the revised Section 2.18 and Appendix L.5.1.

The issues raised in this comment relate to pit storage decisions made in the *Storage and Disposition PEIS* and the *Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components* (DOE/EIS-0225, November 1996). DOE is considering leaving the repackaged surplus pits in Zone 4 at Pantex for long-term storage. An appropriate environmental review will be conducted when the specific proposal for this change has been determined; e.g., whether additional magazines need to be air-conditioned. The analysis in this SPD EIS assumes that the surplus pits are stored in Zone 12 in accordance with the ROD for the Storage and Disposition PEIS.

The remainder of this comment is addressed in response MD131–27.

MD131–29 Human Health Risk

In response to public concerns, a number of actions (see Appendix K.1.5.1) have been taken to reduce the risk of an aircraft crash at Pantex. The frequency

of a crash into a pit conversion facility vault containing plutonium powder (plutonium dioxide) is less than 1 in 10 million per year. According to conservative calculations (see Table K-12), this “beyond-extremely-unlikely” accident (estimated frequency: lower than 1 in 1 million per year) would induce 4.5 LCFs in the population within 80 km (50 mi) of the site.

The impacts of explosives and the associated release of plutonium powder into the environment have also been evaluated (Appendix K.1.5.2.1). An explosion would be “unlikely” (estimated frequency: 1 in 10,000 to 1 in 100 per year). Conservative calculations (see Table K-12) indicate that this accident would induce only 0.00011 LCF in the population within 80 km (50 mi) of the site. The inadvertent detonation of a nuclear warhead is not considered credible.

Impacts associated with transporting plutonium dioxide from Pantex to offsite facilities are addressed in this SPD EIS; an estimate of the maximum potential impacts of such a shipment is included in Appendix L.6.3. According to conservative calculations, a transportation accident in an urban area would produce 27 LCFs within a radius of 80 km (50 mi) of the accident location. However, given the extremely low frequency of the accident (much lower than 1 in 10 million per year), the actual risk of a fatal cancer is extremely low. A transportation accident in a rural area, the scenario discussed in Section 4.6.2.6, has a frequency of 1 in 10 million per year and a predicted impact of less than 0.1 LCF. The net result is an extremely low risk of a fatal cancer among the population within 80 km (50 mi) of the accident. In summary, conservative evaluations indicate no significant safety concerns to the public from locating the pit conversion facility at Pantex.

MD131-30

Transportation

The selection of sites for potential surplus plutonium disposition facilities was based on a number of factors. The location of the surplus pits at Pantex was not the only reason for making it a reasonable alternative for siting the proposed surplus plutonium disposition facilities. As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures or vehicle emissions are expected. Table L-6 shows the transportation risks for all alternatives. Analyses of transportation risks are just one of the factors considered in the decisionmaking regarding facility siting.

SPD EIS AND COST REPORT COMMENTS

- DOE's EM Division has stated that they expect to save over a billion dollars by accelerating shipment of non-pit plutonium from Hanford and Rocky Flats to SRS for disposition. If it is cost effective for EM to expedite the movement of that plutonium, then it must also be cost effective for DOE to accelerate the shipments of pits from Pantex. Particularly considering the major upgrades required at Pantex for safe storage if the pits are not promptly moved. 31

- V. Waste and Waste Management

- DOE plans to entomb six million cubic feet of TRU waste at WIPP. The pit disassembly and conversion facility will produce less than .1% of this quantity regardless of whether a dry or aqueous process is used. Therefore whether one pit conversion process produces slightly more or less TRU waste than another is irrelevant. The fact that this technology choice impacts 32
 1. Cost and schedule
 2. The size, cost, risk, and environmental impact of downstream processing facilities
 3. The ability to use of existing facilities for aqueous systems versus having to construct new facilities for the proposed dry process

needs to be considered and analyzed in the EIS.

- If all the 50MT's of surplus plutonium were aqueously processed using existing facilities at SRS, fewer than 20 additional glass logs would be produced by DWPF out of an approximate total of 5200 and would represent less than one month out of 25 years of operation of DWPF. This small environmental impact needs to be included as an EIS option, and together with the resulting smaller, simpler MOX and immobilization facilities, considered as a reasonable alternative compared to the all new facilities and technologies currently analyzed. 33

- The EIS says that shipments of TRU waste resulting from a pit disassembly and conversion operation at Pantex cannot be shipped to WIPP until after 2016. The full cost, risk, and facilities for storing the total accumulation of TRU waste during the life of the program until after 2016 needs to be added to the analysis. In addition, the EIS needs to consider the much larger quantity of TRU waste which will be generated by the future D&D of a 186,000 sq. ft. plutonium processing facility at Pantex. 34

- While it is true that solid waste generation under any scenario would be small compared to DOE's existing stocks, certainly it should be worth noting in the summary, p. S-23 for example, that generation of any TRU waste at Pantex is an issue. Pantex has no TRU waste nor authorization to ship TRU waste to WIPP. TRU waste will have to be stored until at least 2016. 35

- What is the logic for not including waste shipments in Table S-3, "Facility Transportation Requirements"? The inclusion of these shipments is part of the plant's operations and the 36

MD131-31 Storage and Disposition PEIS and ROD

The potential cost saving that could result from the early movement of nonpit surplus plutonium from RFETS and Hanford is based on the termination of storage operations and required security at those sites. Security is a major cost involved with storage. The same situation does not apply to Pantex, which will continue its storage mission and associated security. Further, major upgrades of storage facilities at Pantex are not required, but DOE is considering some upgrades (e.g., air conditioning, catwalks, standby power) to address plutonium storage requirements. Although SRS is preferred for the proposed surplus plutonium disposition facilities, a decision has not been made. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

MD131-32 Waste Management

An aqueous process for conversion of plutonium would need to be placed in a new facility. Existing canyon facilities are not configured for a plutonium disposition mission and are either shut down or planned for shutdown and D&D.

DOE is committed to waste minimization and pollution prevention throughout the complex.

The remainder of this comment is addressed in response MD131-1.

MD131-33 Waste Management

This comment is addressed in response MD131-9.

MD131-34 Waste Management

Section 4.17.2.2 evaluates the potential impacts of operation of the pit conversion and MOX facilities on the waste management infrastructure at Pantex. This section states that the 640 m³ (837 yd³) of TRU waste generated over the 10-year operations period could be stored within the new pit conversion and MOX facilities with minimal impact on existing waste management infrastructure at Pantex. The amount of waste generated by D&D of the facilities would be determined by the future use selected for the buildings and adjacent land areas. As described in Section 4.31, DOE will

evaluate options for D&D or reuse of the proposed facilities at the end of the surplus plutonium disposition program. At that time, DOE will perform engineering evaluations, environmental studies, and further NEPA review to assess the consequences of different courses of action.

MD131-35**Waste Management**

Pantex's lack of TRU waste capacity is discussed in Section S.7 of the *Summary*, which states that because TRU waste is not routinely generated and stored at Pantex, TRU waste storage space would be designated within the pit conversion and MOX facilities. Also, Section S.8 of the *Summary* states that TRU waste storage at Pantex would be provided within the new surplus plutonium disposition facility. In addition, Section 4.17.2.2 assumes that all TRU waste would be stored on the site before being shipped to WIPP for disposal. Although Pantex is not currently authorized to ship TRU waste to WIPP, wastes produced by the proposed surplus plutonium disposition facilities could be accommodated in WIPP. Section 4.17.2.6 includes an analysis of the transport of TRU waste from Pantex to WIPP. This analysis would provide the NEPA documentation for these shipments if this alternative were selected.

MD131-36**Waste Management**

DOE acknowledges the commentor's concerns regarding transportation of wastes generated by the proposed surplus plutonium disposition facilities. The impacts of waste transportation are analyzed in detail in the *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste (WM PEIS)* (DOE/EIS-0200-F, May 1997). As described in Appendix L.6.4 of this SPD EIS, waste transportation at the sites would be handled in the same manner as current waste shipments, and would generally not constitute a major increase in the amounts or risks of waste currently being generated at these sites and analyzed in the WM PEIS. Therefore, this small increment of shipments is not analyzed in this SPD EIS. However, wastes could be generated by surplus plutonium disposition activities that are not covered in the WM PEIS: (1) TRU waste generated at Pantex; (2) some of the LLW generated at Pantex; and (3) some of the LLW generated by lead assembly fabrication at LLNL. Shipment of Pantex TRU waste to WIPP, and Pantex and LLNL LLW to NTS disposal facilities are analyzed in this SPD EIS with the

SPD EIS AND COST REPORT COMMENTS

impact will vary by scenario chosen. They should be included here for impact and not segregated since that tends to confuse.	36
VI. <u>EIS Data Inconsistencies</u>	
• The radiation exposure to construction workers at Pantex reported as zero, but section 3.4.4.1.2 reports that annual doses of 100 mrem above background are measured in zone 4, the site of the proposed facilities. This needs to be corrected to show the exposure to construction workers.	37
• The TRU waste volume forecasts do not appear to be accurate. The annual TRU waste volume for pit disassembly and conversion, a very large facility handling 33MT of plutonium oxide is much less than the TRU waste forecasted from the much smaller MOX and immobilization facilities which handle equal or less plutonium. I cannot understand this difference – what is the basis for the forecasts and how do they compare to real data from an operating plutonium processing facility like SRS's FB Line or Hanford's PFP?	38
VII. <u>Lead Test Assemblies</u>	
• SRS is the preferred site for MOX and should also be the preferred site for the MOX Lead Test Assembly work. The same plutonium capability and expertise is required for both programs. Given the high costs associated with establishing and maintaining plutonium sites, and, given that the only potential for future plutonium operations that are even being considered are at SRS or Pantex, DOE should not consider supporting plutonium infrastructure at INEEL, LLNL, Hanford or ANL-W for the Lead Test program. The report evaluating all five sites showed that the physical plant SRS is offering is as good as any other option. Surely DOE would not maintain another plutonium site for several years just to support a small test program.	39
• The EIS needs to examine the impact of a larger test assembly program. Typical fuel demo programs in the commercial LEU world would require more. The fuel vendor and utility teams have not yet spoken. And, the NRC has yet to review any license applications.	40
• SRS's HB-Line will be producing purified plutonium oxide for safe storage during the time this kind of material will be needed for the Lead Test Assembly Program. Since HB-Line is immediately adjacent and connected to the facility to be used for the LTA's, this would be a logical source of plutonium feed. The EIS should evaluate this option and consider the reduced environmental and safety impacts of using this immediately available pu feedstock.	41

results presented in Chapter 4 of Volume I and Appendix L. Transportation requirements for these wastes are not included in Table S-2 since this table provides generic transportation requirements applicable to the listed facilities regardless of site location.

MD131-37 Human Health Risk

As stated in Section 3.4.4.1.2, the 100-mrem dose is the dose measured at an offsite control location. It is the dose strictly associated with the natural background levels of the area; no part of the dose is attributable to above-background sources. Therefore, there is no discrepancy in the assertion of a zero dose (i.e., the dose level above background) for Pantex construction workers. A statement was added to applicable Chapter 3 (Volume I) sections to further clarify this issue.

MD131-38 Waste Management

The pit conversion facility would convert relatively clean plutonium metal pits to clean plutonium dioxide. In contrast, both the immobilization and MOX facilities mix the plutonium with other materials, increasing the material flow through the facility by a factor of 10 to 20. Additionally, the immobilization facility would handle plutonium in various forms, including fuel rods and plates, impure oxides, and impure metals and alloys. Each form of plutonium requires different processing techniques; some would require significantly more handling than pits require in the pit conversion facility and therefore would generate more TRU waste. Likewise, many steps are needed to fabricate the clean plutonium dioxide into fuel assemblies in the MOX facility. Because the immobilization and MOX approaches are more complicated and process a considerably larger total material throughput, it is estimated that more TRU waste would be produced by the immobilization and MOX facilities than the pit conversion facility.

MD131-39 Lead Assemblies

DOE acknowledges the commentator's support for the fabrication of lead assemblies at SRS. As discussed in the revised Section 1.6, based on consideration of capabilities of the candidate sites and input from DCS on the MOX approach, DOE prefers LANL for lead assembly fabrication. LANL is preferred because it already has fuel fabrication facilities that would not

SPD EIS AND COST REPORT COMMENTS

Thank you for your careful consideration of my comments. I am looking forward to seeing them addressed in the Final EIS and a revised Cost Report.



Richard L. Geddes
 807 Big Pine Road
 North Augusta, SC 29841

cc: Ms. Carol Borgstrom, Director
 Office of NEPA Policy and Assistance
 Office of Environment, Safety and Health

U. S. Department of Energy
 1000 Independence Avenue
 Washington, DC 20585

R. L. Geddes

9

MD131

require major modifications, and takes advantage of existing infrastructure and staff expertise. Additionally, the surplus plutonium dioxide that would be used to fabricate the lead assemblies would already be in inventory at the site. DOE prefers ORNL for postirradiation examination activities. ORNL has the existing facilities and staff expertise needed to perform postirradiation examination as a matter of its routine activities; no major modifications to facilities or processing capabilities would be required. In addition, ORNL is about 500 km (300 mi) from the reactor site that would irradiate the fuel. Decisions on lead assembly fabrication and postirradiation examination will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

MD131-40

Lead Assemblies

The lead assembly program, including determination of the number of lead assemblies for test irradiation, was the product of close consultation with representatives of the commercial nuclear industry. Since publication of the SPD Draft EIS, the number of lead assemblies has in fact been reduced to two on the basis of information provided by DCS. DCS indicated in its proposal that two lead assemblies should be sufficient for its fuel qualification plan, although it is possible that more than two would be required. The potential impacts of fabricating 10 lead assemblies and irradiating 8 of them were analyzed in the SPD Draft EIS. Should fewer lead assemblies than analyzed be fabricated or irradiated, the potential impacts would be less than those described in this SPD EIS. This SPD EIS analyzes the potential impacts of the fabrication of the lead assemblies. Domestic, commercial reactors operate under NRC license; therefore, the use of MOX fuel lead assemblies would be subject to review and regulation by NRC.

MD131-41

Lead Assemblies

The purpose of the lead assembly project is to qualify fuel for the MOX approach to surplus plutonium disposition. In this SPD EIS, it is assumed that the plutonium would come from dismantled pits or existing supplies of surplus metal and oxide at LANL.

CLAUDE L. GILBERT, JR.
1106 Candlewood Drive
Hopkins, South Carolina 29061

September 14, 1998

Department of Energy
Office of Fissile Materials Disposition
Howard R. Canter

Dear Mr. Canter,

Throughout the administrations of Presidents Ford, Carter, Reagan, and Bush, the policy of the United States banned the use of plutonium in commercial nuclear power plants due to the risk that the plutonium could be diverted to terrorists and to nations that have not renounced the use of nuclear weapons.

I hope you will reconsider the dangerous, expensive and an irresponsible course you have endorsed that will convert warhead plutonium into civilian nuclear reactor (MOX) fuel. The use of MOX in the U.S. sends precisely the wrong message in the effort to end nuclear proliferation. As you know, MOX equals plutonium, one of the most toxic, carcinogenic, radioactive substances in the world. This means that the federal government will be transporting plutonium into neighborhoods in order to prop up and subsidize a failing nuclear power industry. You also realize that the production of mixed oxide fuel will result in enormous new quantities of radioactive and chemical wastes that will present significant additional disposal problems and unknown costs. The Department of Energy should be developing plutonium immobilization technologies not endangering the public as well as draining our assets to promote a failed foreign business.

Companies such as BNFL and Cogema cannot be trusted to handle US plutonium disposition. BNFL, besides being responsible for the radioactive North Sea, is a key partner in Urenco, a uranium enrichment consortium. It was top-secret Urenco uranium enrichment technology that formed the basis of Iraq's clandestine efforts to attain nuclear weapons capability. This is not the kind of company that should be handling the most sensitive nuclear material in the United States. There are no reactors in England interested in MOX fuel.

Cogema is undergoing severe criticism and scrutiny in France, where it was revealed in the Spring of 1997 that the area near its La Hague reprocessing plant is highly radioactively-polluted and has caused excess childhood cancers. Continued radiation monitoring in the area has found continued high radiation levels, and local beaches were closed during the summer season.

Here in South Carolina, we already have massive environmental problems from the Savannah River Site. Our ground water is contaminated, the food chain has been contaminated (radioactive fish, turtles and four legged owls). DuPont and Westinghouse both had visions of grandeur and failed miserably in the nuclear waste department, leaving a massive cleanup bill for the taxpayer. Duke power wants to experiment with MOX and have the taxpayer subsidize them and then pay higher rates for electricity in a time when deregulation and energy efficiency makes nuclear power the most expensive fuel there is. Mixing plutonium with taxpayers money is not a sound business decision., the people and the environment deserve better- do the right thing, STOP MOX.

Thank you



Claude Gilbert, Jr.

MD184

MD184-1

MOX Approach

DOE acknowledges the commentor's opposition to the MOX approach. DOE has identified as its preferred alternative the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

U.S. policy dating back to the Ford Administration has prohibited the commercial, chemical reprocessing and separation of plutonium from spent nuclear fuel. The use of U.S. surplus plutonium in existing domestic, commercial reactors does not involve reprocessing (reprocessing is a chemical separation of uranium, transuranic elements [including plutonium], and fission products from spent reactor fuel and the reuse of the plutonium and uranium to produce new fresh fuel). The proposed use of MOX fuel is consistent with the U.S. nonproliferation policy and would ensure that plutonium which was produced for nuclear weapons and subsequently declared excess to national security needs is never again used for nuclear weapons. In keeping with the U.S. policy of discouraging the civilian use of plutonium, a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of U.S. surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. In addition, the MOX facility would be open to international inspections.

Transportation would be required for both the immobilization and MOX approaches to surplus plutonium disposition. Transportation of special nuclear materials, including fresh MOX fuel, would use DOE's SST/SGT system. Since the establishment of the DOE Transportation Safeguards Division in 1975, the SST/SGT system has transported DOE-owned cargo over more than 151 million km (94 million mi) with no accidents causing a

fatality or release of radioactive material. The transportation requirements for the surplus plutonium disposition program are also evaluated in this SPD EIS. Transportation impacts of the MOX approach are summarized in Chapter 4 of Volume I and Appendix L.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

MD184-2**Other**

DOE acknowledges the commentor's concerns.

MD184-3**MOX Approach**

Use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors.

Surplus Plutonium Disposition Draft EIS Public Comment

Charles R. Goergen
510 Boardman Road
Aiken, South Carolina 29803

With 23 years of nuclear experience in working with all isotopic classes of plutonium, my areas of expertise include plutonium chemistry, chemical separations processing, and radioanalytical techniques. In 1994 while on loan to DOE-HQ, Office of Nuclear Weapons, I served on the Plutonium ES&H Vulnerability Assessment participating in the Pantex Working Group Assessment Team as the plutonium technology/process safety expert where I spent a total of one month at the Pantex Site. As a result of that experience I have serious concerns for Pantex being the Site chosen for the Surplus Plutonium Disposition pit conversion mission.

That vulnerability assessment took a time slice for current missions. In 1994 direct work with unclad plutonium was not included. All plutonium was encased in sources or pits with the exception of some lab reference solutions. There have only been a few occasions where Pantex has had plutonium exposed to air. In the most recent case, the design agency was called in to actually autopsy the pit and deal with the resultant materials.

During my experience at Pantex I made the following observations:

- There was no workforce experience base of unclad plutonium handling operations. Operations, maintenance, Radcon, and engineering need to be familiar and knowledgeable of possible hazards. Precautions centered on maintaining the integrity of the cladding with emergency responses to reestablish containment. There was no experience with releases of plutonium. Technical assistance by the design labs was available but not easily accessed.
- Personnel knowledge of the properties of plutonium focused on penetrating radiation exposure. Appreciation for the form was lacking, for example: α or δ phase metal, particle size distribution of oxide, nitrate or hydroxide solutions, Pu-238 or Pu-239 isotopic distribution. Intimate knowledge of plutonium characteristics and familiarity of operations is vital to success of this defined endeavor.
- Nuclear Criticality had been analyzed to be incredible for pit systems at Pantex. As soon as the pit is deformed and converted to another geometry, the criticality implications, analyses, controls, alarms, emergency response procedures and facilities must then be addressed. This would involve an extensive control system.
- Radiological contamination controls need to deal with potential contamination levels of millions of dpm alpha. Techniques to work with and handle this level of radioactivity, measurement, and decontamination methodology are learned through experience. Anti-contamination techniques such as radiological clothing/personal protective equipment need to have been mastered. Ventilation systems require

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SCD05

SCD05-1

Alternatives

DOE acknowledges the commentor's opposition to siting the pit conversion facility at Pantex. Experienced workers would be used, and specific training would be provided to all workers involved in the surplus plutonium disposition program. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

maintenance programs for HEPA filters, fans, and ductwork. Handling of ancillary materials such as tools, transuranic waste, low level waste, and laundry are not inconsequential tasks.

- Shielding will need to be added for (α , n) reactions to be encountered and the Am-241 in aged plutonium.
- Use of containments such as work in gloveboxes is difficult and requires extensive practice and experience to gain proficiency.

I urge the Department to give weighted consideration to the experience of the workforce in plutonium handling. This goes for design input/review, facility operability, and knowledge. This is not something that can be learned easily from a book but requires familiarity with the potential hazards of the actinides to be encountered. In day-to-day operations there will be difficulties that require immediate technical engineering input and observation. Currently, design agencies provide long distance support.

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While the Pantex Site has done an outstanding job in their mission of weapons assembly/disassembly and storage and handling of high explosives, it remains what a DOE official once called it, "a screw and glue factory". Design, construction, and operation of plutonium handling facilities are a different type of work requiring an experience base that is lacking at Pantex.



SCD05



United States
Department
of Energy

Comment Form

NAME: (Optional) Rudy Goetzman
ADDRESS: 19 Inverness East Aiken, SC
TELEPHONE: (803) 649-2349
E-MAIL: _____

All three elements of the Pu disposition program should be located at SRS. Consolidation of the mission makes both technical and business sense. SRS has the trained personnel and the infrastructure to do all the activities in the disposition program. Pantex has never handled Pu solutions. It is essential that experienced operators and managers are involved with each of the proposed processes to ensure the safety of the workers and the public.

The cost to develop the infrastructure, train the personnel, and "move up the learning curve" of Pu operations have to be significant for Pantex - some estimates are over \$1 Billion. From a pure economics standpoint, SRS represents a much better choice.

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SCD91-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.



United States
Department
of Energy

Comment Form

NAME: (Optional) James Goldman
ADDRESS: 689 Levering Dr
TELEPHONE: (903) 278-2970
E-MAIL: goldmanj@bellsouth.net

I support bringing all Surplus Plutonium Disposition mission
to the Savannah River Site where the mission will
be completed cheaply, safely, and

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SCD65

SCD65-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

I am Chuck Smith and I am here on behalf of the Greater North Augusta Chamber of Commerce. I live in North Augusta as do many people that are touched by the Savannah River Site on a daily basis.

The people at SRS and the CSRA contributed to our Nation's nuclear deterrent efforts for over four decades and now these same people are prepared to take on the new, critical mission of plutonium disposition. Why would DOE consider another possible site for this mission? SRS has the experience, infrastructure, the best safety numbers of the entire DOE complex and can accomplish the pit disassembly mission at a lower cost to taxpayers. DOE has previously acknowledged that SRS is uniquely qualified to handle plutonium when it named SRS as the site of choice for the Mixed Oxide Fuel Fabrication.

I believe that these hearings will provide overwhelming arguments as to why DOE will decide that SRS is the preferred site for the Pit Disassembly Mission.

On behalf of the North Augusta Chamber of Commerce, I appreciate the opportunity to express our support for DOE to place this mission at the Savannah River Site.

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SCD59

SCD59-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.



RESOLUTION

WHEREAS the handling and disposition of excess weapons plutonium is of grave concern to the national security of the United States; and

WHEREAS plutonium disposition represents one of the most certain future missions of the DOE for the next 20 to 30 years; and

WHEREAS the Department of Energy has decided to pursue a dual path for plutonium disposition and has named the Savannah River Site as a candidate site for both options; and


WHEREAS the Savannah River Site has produced approximately 40 percent of all US weapons grade plutonium over the last 45 years and has safely handled plutonium in glovebox processing equipment with no adverse impact on workers, the public or the environment; and

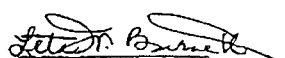
WHEREAS the Department of Energy in its Record of Decision recognizes the Savannah River Site as "a plutonium-competent site with the most modern, state-of-the-art storage and processing facilities...with the only remaining large-scale chemical separation and processing capability in the DOE complex"; and

WHEREAS the regional community in the Central Savannah River Area (CSRA) of South Carolina and Georgia strongly supports continued plutonium missions for the Department of Energy's Savannah River Site;

NOW BE IT RESOLVED that the Greater North Augusta Chamber of Commerce strongly endorses major plutonium missions for the Savannah River Site and urges the Department of Energy to designate the Savannah River Site as its lead facility in plutonium management and disposition.

APPROVED this 25th day of February 1997 at North Augusta, South Carolina, by the Greater North Augusta Chamber of Commerce Board of Directors.


Chuck Smith
Chairman


Leta W. Burnett
Executive Director

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SCD99-1

Alternatives

DOE acknowledges the commentors' support for siting the surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

8-31-98

Laura Holgate
Under Sec'y
Office of Fissile Materials
Department of Energy
Washington, D.C.

Ms. Holgate,

As a concerned citizen of the state of South Carolina, I am writing to voice opposition to the Department of Energy's plan to manufacture mixed oxide fuel (MOX) at the Savannah River Site (SRS) or elsewhere.

I strongly agree that we must safeguard plutonium from terrorists and others who may wish to build atomic weapons. Also, we, as a country, must find and agree upon a means of the storage/disposal of plutonium which safeguards the environment and the people in it as well.

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MD244

MD244-1

Alternatives

DOE acknowledges the commentor's opposition to the MOX approach. However, DOE has identified as its preferred alternative the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

The DOE disposition facilities proposed in this SPD EIS would be at locations where plutonium would have the levels of protection and control required by applicable DOE safeguards and security directives. Safeguards and security programs would be integrated programs of physical protection, information security, nuclear material control and accountability, and personnel assurance. Security for the SRS facilities would be implemented commensurate with the usability of the material in a nuclear weapon or improvised nuclear device. SRS has sitewide security services. Physical barriers; access control systems; detection and alarm systems; procedures, including the two-person rule (which requires at least two people to be present when working with special nuclear materials in the facility); and personnel security measures, including security clearance investigations and access authorization levels, would be used to ensure that special nuclear materials stored and processed inside are adequately protected. Closed-circuit television, intrusion detection, motion detection, and other automated materials monitoring methods would be employed. Furthermore, the physical protection, safeguards, and security for the MOX facility and domestic, commercial reactors would be in compliance with NRC regulations.

MOX is not a viable choice²
for the ~~safe~~ containment
of plutonium. This is
because every reactor,
commercial or other, produces
plutonium as a waste
product of its operation.
When the combined uranium,
plutonium MOX fuel is used
in a normal reactor (as opposed
to a weakened one), the amount
of plutonium that comes out
of the reactor, according to
the Westinghouse Corporation,
is only 1% less than the
amount of plutonium that
went into the reactor.

Plutonium is one of the most
toxic, carcinogenic radioactive
substances in the world. It
stays in the environment
and is a health hazard
for 240,000 years! We must find
a safe and alternate method
for its immobilization; a
method which does not threaten
the health of millions of people.
There are too many risks

MD244

MD244-2**MOX Approach**

The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. The purpose of the MOX approach is to convert surplus plutonium to a form that meets the Spent Fuel Standard, thereby providing evidence of irreversible disarmament and establishing a model for proliferation resistance. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. While it is true that not all the plutonium would be consumed during irradiation in a nuclear reactor, the resulting spent fuel would have a radiation barrier equivalent to LEU spent fuel, and recovery of this plutonium would be extremely dangerous, time consuming, and costly.

MD244-3**Immobilization**

In the *Immobilization Technology Down-Selection Radiation Barrier Approach* (UCRL-ID-127320, May 1997), LLNL recommended that DOE pursue only the can-in-canister immobilization approach based upon its superiority to the homogenous approaches in terms of timeliness, higher technical viability, lower costs, and to a lesser extent, lower environmental and health risks. Based on further recommendations from a committee of experts representing DOE, the national laboratories, and outside reviewers, DOE subsequently determined that immobilizing surplus plutonium materials would be best accomplished using the ceramic can-in-canister approach. NAS is currently conducting studies to confirm the ability of the ceramic can-in-canister immobilization approach to meet the Spent Fuel Standard. The immobilization process is further discussed in Section 2.4.2.2.2.

MD244-4**Transportation**

As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures or vehicle emissions are expected. Transportation would be required for both the immobilization and MOX approaches to surplus plutonium disposition. Transportation of special

3
associated with the proposed
production and use of Mixed
Oxide Fuel. One such risk is
that the plutonium, now being
guarded in Texas, will be
more vulnerable to theft by
terrorists or accidental spills
while being transported
by trucks and rail cars.
4
Also, there are increased health
risks inherent with the use
of radioactive materials, such
as increased rates of cancer,
5
leukemia, and thyroid problems,
that result from environmental
degradation and contamination.
The people have a right
to be a part of this important
decision! Extensive discussion
of the alternatives for plutonium
6
containment needs to happen
before the DOE begins a
project that will detrimentally
affect millions for life.

Yours truly,
Karen G. Hardison
Karen G. Hardison

MD244

nuclear materials, including fresh MOX fuel, would use DOE's SST/SGT system. Since the establishment of the DOE Transportation Safeguards Division in 1975, the SST/SGT system has transported DOE-owned cargo over more than 151 million km (94 million mi) with no accidents causing a fatality or release of radioactive material, and no material has been diverted by terrorists. Section 2.4.4 and Appendix L describe DOE's transportation and material protection activities.

MD244-5

Human Health Risk

This SPD EIS identifies and analyzes potential human health impacts that might result from construction and operation of the proposed surplus plutonium disposition facilities. The Human Health Risk and Facility Accidents sections in Chapter 4 of Volume I discuss the effects on the public of potential radiological releases. DOE policy places public safety above other program goals, and requirements have been established to protect the safety and health of the public. DOE considers the protection of the public against accidents in the design, location, construction, and operation of its facilities.

MD244-6

General SPD EIS and NEPA Process

Since the inception of the fissile materials disposition program, DOE has supported a vigorous public participation policy. It has conducted public hearings in excess of the minimum required by NEPA regulations to engender a high level of public dialogue on the program. Hearings on this SPD EIS were held in Washington, Texas, South Carolina, Oregon, Idaho, and Washington, D.C. The office has also provided the public with substantial information in the form of fact sheets, reports, exhibits, visual aids, and videos related to fissile materials disposition issues. It hosts frequent workshops, and senior staff members make presentations to local and national civic and social organizations on request. Additionally, various means of communication—mail, a toll-free telephone and fax line, and a Web site (<http://www.doe-md.com>)—have been provided to facilitate the public dialogue. It is DOE policy to encourage public input into these matters of national and international importance.

I wanted to register an opinion. My name is Lois Helms. I live in Winnsboro, South Carolina. I'm opposed to the plans for a MOX plant at the Savannah River Site. I think it's a hazardous program and has many short comings and is being rushed through without efficiency.

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PD043

PD043-1**Alternatives**

DOE acknowledges the commentor's opposition to siting the MOX facility at SRS. This SPD EIS analyzes the potential environmental impacts associated with implementing the proposed surplus plutonium disposition activities at the candidate sites. The results of these analyses, presented in Chapter 4 of Volume I and summarized in Section 2.18, demonstrate that the activities would not have major impacts at any of those sites including SRS.

As indicated in Section 1.6, SRS is preferred for the MOX facility because this activity complements existing missions and takes advantage of existing infrastructure and staff expertise. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.



United States
Department
of Energy

Comment Form

NAME: (Optional) STEPHEN A. JOHNSON
ADDRESS: 213 CUM VINA DRIVE AIXON, SC 29803
TELEPHONE: (803) 643-0623
E-MAIL: stephenjohnson@southscape.net

If you exclude political pandering, SRS
is the only possible choice for the
consolidation of all Plutonium disposition
emissions.

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SCD63

SCD63-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.



United States
Department
of Energy

Comment Form

NAME: (Optional) JIM JORDAL
ADDRESS: _____
TELEPHONE: () _____
E-MAIL: _____

SIMPLY STATED - IT MAKES A WHOLE
LOT MORE SENSE TO HAVE PLUTONIUM
DISPOSITION AT THE SRS (IMMOBILIZATION AND
MOX) THAN TO DO ONE OF THE TWO AT
PINTOX AND RISK TRANSPORT OF BULLION/CULDS
ACROSS THE SOUTHWEST FOR MOX AT SRS.

1

CONSIDER THE FACTS, NOT RHETORIC
, NOT POLITICS
, NOT LOBBIES
USE GOOD AMERICAN
COMMON SENSE.

SCD57

SCD57-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

League of Women Voters of South Carolina
P.O. Box 8453
Columbia, SC 29202
(803) 693-1112

Date: September 11, 1998

To: U.S. Dept. of Energy
Office of Fissile Materials Disposition
P.O. Box 23786
Washington, D.C. 20026-3786

From: Mary T. Kelly, Ph.D., Natural Resources Specialist, LWVSC
4018 Sandwood Drive, Columbia, SC 29206
(803) 762-8410

Re: Surplus Plutonium Disposition Draft EIS

The League of Women Voters of South Carolina has been following Savannah River Site activities, its various missions, and its environmental problems for some twenty-five years. We agree that solutions must be found for eliminating the risk posed by surplus plutonium. We appreciate the opportunity to make these comments.

We commend DOE for holding forums on the Surplus Plutonium Disposition Draft EIS in various parts of the country. However, the session on the afternoon of August 13, 1998 in N. Augusta, SC, made a mockery of the public participation process. It was supposed to be informational with time for discussion groups. Instead it was a highly organized and structured lobbying effort on the part of the many supporters in the area who view all proposals as one big job/economic development opportunity for the Aiken/Barnwell/Augusta, Georgia area. I believe that the main contractor, Westinghouse, is also part of the lobbying effort. One is reminded of President Eisenhower's caution about the military/ industrial complex.

Supporters cheered after every speaker. It was intimidating for many with reservations about the proposals and not an atmosphere for sharing valid objections counter to the mood of the 400-member crowd. The few who did speak at the tail end should be commended for their courage. One speaker questioned why anyone not from the area should care. The fact that many millions of taxpayer dollars are at stake and that we all share in the risk SRS poses did not seem to occur to him.

We heard numerous references to the SRS safety record, one that belongs not to the current contractor, Westinghouse, but to the previous contractor, DuPont. Westinghouse in fact has little or no production record at this site, and there is some doubt as to whether Westinghouse will be the contractor when the proposed facilities are built and operated. And does the large pool of experienced workers so often mentioned exist? Many are too old and others have dispersed away from the site. There has been no production since 1988 when the last tritium-producing reactor was shut down for safety reasons.

The fact that nuclear technology is very, very dangerous seems to have escaped the majority of speakers. A nuclear accident has the potential of contaminating a multi state area. We live in a dangerous world. On the one hand, the proposals being offered are intended to keep fissile materials out of the hands of terrorists. On the other, we seem willing to consolidate almost all of the nation's fissile materials in one place, making South Carolina and the SRS site perhaps the world's prime one shot target for a massive military strike. Is it really smart to concentrate so much at one site?

To comment on the exact proposals:

*How will the burning of MOX in commercial reactors affect foreign policy and our non-proliferation stance? Turning the excess plutonium and highly enriched uranium into fuel for commercial reactors is in contradiction with our carefully thought out strategy of many years standing - do not mix military and civilian nuclear efforts. We have maintained this posture through thick and thin. It was the

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MD169

MD169-1

General SPD EIS and NEPA Process

DOE acknowledges the commentor's concerns about the public hearings for discussion of the surplus plutonium disposition program. DOE believes that the hearing in question was objective and open; everyone who attended was provided an opportunity to comment orally or in writing. Moreover, all comments submitted were given equal consideration relative to the preparation of this SPD EIS.

MD169-2

Other

The management and operations contractor for SRS is required to operate the site in compliance with applicable laws and regulations, including DOE environmental, safety, and health directives. If DOE implements alternatives for the disposition of surplus plutonium that result in the construction and operation of facilities at SRS, compliance with applicable laws and regulations would apply to the management and operations contractor regardless of the contractor's previous experience.

As discussed in Section 3.5, operational reactors at SRS have been shut down. Active missions at the site are summarized in Table 3-38. Workers in safety-sensitive positions at SRS must satisfy DOE's qualifications for such positions. As discussed throughout Chapter 4 of Volume I, implementation of alternatives that would result in construction of new facilities at SRS would have no major impact on the regional workforce.

MD169-3

DOE Policy

The scope of this SPD EIS is focused on analysis of alternatives on weapons-usable plutonium that has been declared surplus to national security needs. It does not address non-surplus plutonium (e.g., strategic reserves) or other fissile materials such as HEU, which would continue to be stored at sites other than SRS. Therefore, all material would not be concentrated at SRS.

The Facility Accidents sections in Chapter 4 of Volume I summarize accident analyses for SRS. Details are provided in Appendix K.

The proposed DOE surplus plutonium disposition facilities are all at locations where plutonium would have the levels of protection and control required by applicable DOE safeguards and security directives. Safeguards and security programs would be integrated programs of physical protection, information security, nuclear material control and accountability, and personnel assurance. Security for the SRS facilities would be implemented commensurate with the usability of the material in a nuclear weapon or improvised nuclear device. SRS has sitewide security services. Physical barriers; access control systems; detection and alarm systems; procedures, including the two-person rule (which requires at least two people to be present when working with special nuclear materials in the facility); and personnel security measures, including security clearance investigations and access authorization levels, would be used to ensure that special nuclear materials stored and processed inside are adequately protected. Closed-circuit television, intrusion detection, motion detection, and other automated materials monitoring methods would be employed. Furthermore, the physical protection, safeguards, and security for the MOX facility and domestic, commercial reactors would be in compliance with NRC regulations. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical cost reports, national policy and nonproliferation considerations, and public input.

MD169-4

Nonproliferation

The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. Converting the surplus plutonium into MOX fuel and using it in domestic, commercial reactors is an effective way to accomplish this. Consistent with the U.S. policy of discouraging the civilian use of plutonium, a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation

justification in the streets for peace days for allowing American companies, including Westinghouse, to sell nuclear technology abroad.

We have criticized other countries for using commercial reactors to produce weapons grade material. Witness our condemnation of Pakistan and India for their bomb making activities.

**Will commercial reactors really be available to burn this fuel? The nation's commercial reactors are aging and in the process of, or planning for, decommissioning. We are now hearing that the forty-year license period was chosen to coincide with the terms of the financing lenders would extend. However, the fact of the matter is that these aging reactors are becoming increasingly unsafe and very expensive to operate. Essential parts are too highly insulated to be safe to operate or to approach to replace. Given the past difficulties in restarting reactors at SRS this problem shouldn't be minimized.

**Will the public accept the use of this type of fuel in commercial reactors located relatively close to significant populations?

**If a commercial reactor is chosen and retrofitted to burn MOX what will be the licensing process? Will it be similar to that now used to license commercial plants? Who will regulate?

**What will be the nature of the waste and how will it be handled if the permanent repository is not ready? This is a big problem for commercial reactors now.

**With the closing of deregulation, states and stock holders are being faced with the problem of stranded costs for commercial reactors, mainly unpaid debt. This is very high for nuclear utilities and will no longer be recoverable through regulated rates. Some equity - the federal government, each state, taxpayers, stockholders - will have to assume this burden. How will this affect that problem? Or will the federal government assume the obligation?

We continue to be concerned about how new initiatives at SRS will affect the environmental clean up now going on and still far from complete, especially as the new initiatives will produce additional waste. Although we are strong advocates of objective decision making we have to have a degree of skepticism towards any and all planning, based on the lack of stability in the political leadership at the highest levels of DOE, and the arbitrary changes that Congress may make. We have seen three different DOE Secretaries in the last few years. Nevertheless, we wish you well as you make these decisions, so important for the peace of the world.

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MD169

would be a once-through cycle with no reprocessing. The decision on disposition of surplus HEU calls for blending down this material to LEU that is suitable for reactor use. Therefore, this uranium fuel for commercial reactors would no longer be weapons grade and would be the same as other commercial uranium fuel.

MD169-5

MOX Approach

DOE acknowledges the commentor's concerns regarding the use of MOX fuel in commercial reactors. Section 4.28 was revised to discuss the potential environmental impacts of operating Catawba, McGuire, and North Anna, the reactors that would use the MOX fuel. Commercial reactors in the United States are capable of safely using MOX fuel. The commercial reactors selected for the MOX approach include only those reactors whose operational life is expected to last beyond the life of the surplus plutonium disposition program. The SRS reactors are much older and predate most of the regulatory requirements to which commercial reactors are designed.

MD169-6

NRC Licensing

The SPD Final EIS was not issued until the proposed reactors had been identified and the public had an opportunity to comment on the reactor-specific information. As part of the procurement process, bidders were asked to provide environmental information to support their proposals. This information was analyzed in an Environmental Critique prepared for the DOE source selection board prior to award of the MOX fuel fabrication and irradiation services contract. DOE then prepared an Environmental Synopsis on the basis of the Environmental Critique, which was released to the public as Appendix P of the *Supplement to the SPD Draft EIS* in April 1999. This *Supplement* included a description of the affected environment around the three proposed reactor sites, and analyses of the potential environmental impacts of operating these reactors using MOX fuel (Sections 3.7 and 4.28 of this SPD EIS, respectively). During the 45-day period for public comment on the *Supplement*, DOE held a public hearing in Washington, D.C., on June 15, 1999, and invited comments. Responses to those comments are provided in Volume III, Chapter 4.

MD169-7**NRC Licensing**

The regulatory process will be the same as for any request to amend a 10 CFR 50 operating license. The reactor licensee will initiate the process by submitting an amendment request to NRC in accordance with 10 CFR 50.90. Safety and environmental analyses commensurate with the level of potential impact are submitted in support of, and as part of, the amendment request. NRC reviews the submitted information and denies or approves the request. The review process may involve submittal of additional information and face-to-face meetings between the licensee and NRC, and may result in modified license amendment requests. NRC would continue to regulate the commercial reactors.

MD169-8**Waste Management**

The characteristics of MOX spent fuel would be similar to those of LEU spent fuel. As described in Sections 2.18.3 and 4.28.2.8, additional spent fuel would be produced by using MOX fuel instead of LEU fuel in domestic, commercial reactors. Spent fuel management at the proposed reactor sites is not expected to change dramatically due to the substitution of MOX assemblies for some of the LEU assemblies. The additional spent fuel assemblies from the use of MOX fuel would not require different spent fuel storage at the reactor sites. Likewise, the additional spent fuel would be a very small fraction of the total that would be managed at the potential geologic repository. This SPD EIS assumes, for the purposes of analysis, that Yucca Mountain, Nevada, would be the final disposal site for all immobilized plutonium and MOX spent fuel. As directed by the U.S. Congress through the NWPA, as amended, Yucca Mountain is the only candidate site currently being characterized as a potential geologic repository for HLW and spent fuel. DOE has prepared a separate EIS, *Draft Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada* (DOE/EIS-0250D, July 1999), which analyzes the environmental impacts from construction, operation and monitoring, related transportation, and eventual closure of a potential geologic repository.

MD169-9

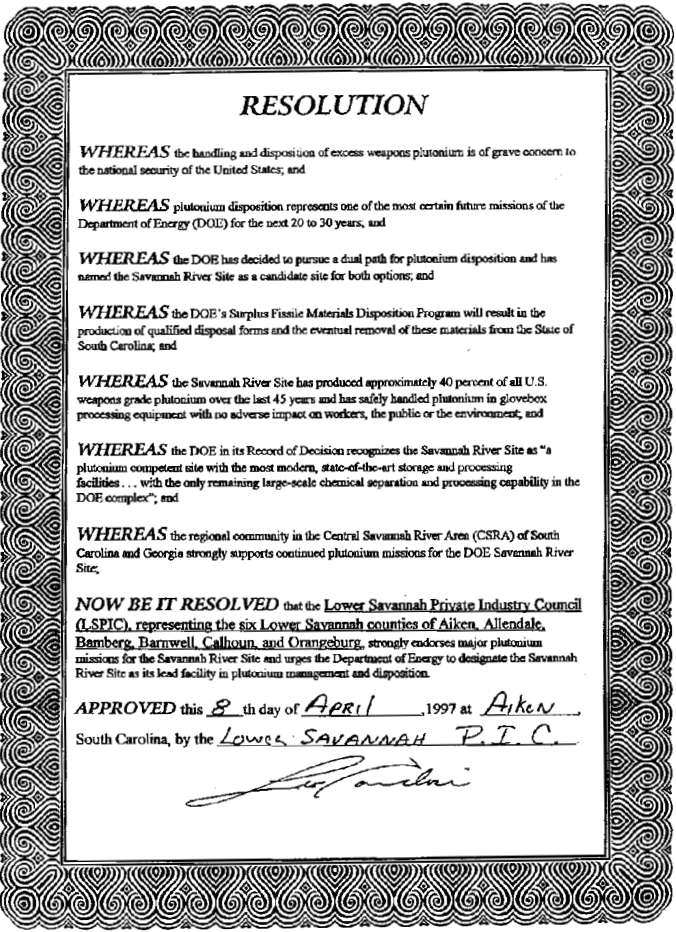
Cost

DOE would not assume any obligation for stranded costs under the alternatives for the surplus plutonium disposition program.

MD169-10

DOE Policy

DOE acknowledges the commentor's concern that environmental cleanup at SRS would be affected by new initiatives, especially those that would produce additional waste, DOE's changing leadership, and changes imposed by the U.S. Congress. Cleanup at SRS is still a priority, will remain a priority, and can coexist with other DOE initiatives. The surplus plutonium disposition program would be conducted in a way which ensures that cleanup remains a priority at SRS and that the production of any additional waste is processed and disposed of in a timely and environmentally acceptable manner.



RESOLUTION

WHEREAS the handling and disposition of excess weapons plutonium is of grave concern to the national security of the United States; and

WHEREAS plutonium disposition represents one of the most certain future missions of the Department of Energy (DOE) for the next 20 to 30 years; and

WHEREAS the DOE has decided to pursue a dual path for plutonium disposition and has named the Savannah River Site as a candidate site for both options; and

WHEREAS the DOE's Surplus Fissile Materials Disposition Program will result in the production of qualified disposal forms and the eventual removal of these materials from the State of South Carolina; and

WHEREAS the Savannah River Site has produced approximately 40 percent of all U.S. weapons grade plutonium over the last 45 years and has safely handled plutonium in glovebox processing equipment with no adverse impact on workers, the public or the environment; and

WHEREAS the DOE in its Record of Decision recognizes the Savannah River Site as "a plutonium competent site with the most modern, state-of-the-art storage and processing facilities . . . with the only remaining large-scale chemical separation and processing capability in the DOE complex"; and

WHEREAS the regional community in the Central Savannah River Area (CSRA) of South Carolina and Georgia strongly supports continued plutonium missions for the DOE Savannah River Site;

NOW BE IT RESOLVED that the Lower Savannah Private Industry Council (LSPIC), representing the six Lower Savannah counties of Aiken, Allendale, Bamberg, Barnwell, Calhoun, and Orangeburg, strongly endorses major plutonium missions for the Savannah River Site and urges the Department of Energy to designate the Savannah River Site as its lead facility in plutonium management and disposition.

APPROVED this 8th day of April, 1997 at Aiken, South Carolina, by the Lower Savannah P.I.C.

SCD101-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.



United States
Department
of Energy

Comment Form

NAME: (Optional) William H. Martin
ADDRESS: 6 Brookings Dr. Aiken, SC
TELEPHONE: (803) 646-0941 (H) (803) 557-7200 (W)
E-MAIL: WHMART@SCESCAPE.COM

1. IS THIS A POLITICAL OR
TECHNICAL AND ECONOMIC DECISION?

2. RECOGNITION MUST BE GIVEN TO POLITICAL
AND ECONOMIC IMPACTS; BUT FOR THE
TAXPAYER, THE DECISION MUST BE MADE
ON A HIGHLY PLAIN AND CORRECT DECISION
MADE.

3. I CONCUR WITH THE GENTLEMAN WHO
MADE THE STATEMENT THAT THE DOE
MUST LOOK AT THE LONG RANGE AND
MAKE FORWARD ^{DECISIONS} INSTEAD OF LOOKING
AT THE SHORT TERM POLITICAL CONCERNS AND
PREJUDICES OF ONE PARTY.

4. I QUESTION THE MOTIVES OF SOME
OF THE DOE MANAGEMENT ^{(POLITICAL}
WARRIORS IN LOOKING AT THE ^{APPROACHES)}
IMMEDIATE WORLD AND NATIONAL
POLITICAL WITH SUCH A SHORT RANGE
OF VISION AND NOT PAYING ATTENTION
TO THE TECHNICAL AND ECONOMIC
LOGIC THAT WOULD CALL FOR
DIFFERENT DECISIONS.

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SCD67

SCD67-1

DOE Policy

As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

1998-009683 Aug 20 P 4:32
Dear Federico Pena,

From what i've come to understand about MOX (the plutonium uranium fuel blend for commercial reactors. It is NOT an option! Stop propping up uneconomical reactors that can't make ends meet.

Particularly with my tax dollars! It is an insult to injury. There is no truly safe option, but there are safer options. Go for them! and stop this insanity!

Thankyou

Sincerely,

Corry E Mason

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FD205

FD205-1

MOX Approach

DOE acknowledges the commentor's opposition to the MOX approach. Use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. The MOX facility would produce nuclear fuel that would displace LEU fuel that utilities would have otherwise purchased. If the effective value of the MOX fuel exceeds the cost of the LEU fuel that it displaced, then the contract provides that money would be paid back to the U.S. Government by DCS based on a formula included in the DCS contract. The commercial reactors selected for the MOX approach include only those reactors whose operational life is expected to last beyond the life of the surplus plutonium disposition program.



United States
Department
of Energy

Comment Form

NAME: (Optional) R. S. MATTHEWS
ADDRESS: 152 DUPREE PL, AIKEN, SC. 29801
TELEPHONE: (806) 642 7145
E-MAIL: N/A

The single copy of the cost report
on the back table has a table (ES-2) indicating
a number of deficiencies in Pantex infrastructure.

How much was into the cost study for:

- (a) building a plutonium analytical lab at
Pantex
- (b) providing for waste disposal (from the plutonium
operation) at Pantex
- (c) building a Source Calibration Facility at
Pantex (Savannah River's cost was about 35 million)
- (d) creating or a special Nuclear Materials
handling capability at Pantex
- (e) how much for detailed, start-from-zero
training for plutonium handling (as
opposed to sealed pits)

Please provide detailed answers to
each part of this question and
consider modifying and reissuing the
cost report.

R. S. Matthews
8/13/98

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SCD96

SCD96-1

Cost Report

Because this comment relates directly to the cost analysis report, it has been forwarded to the cost analysis team for consideration. The *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, is available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.



United States
Department
of Energy

Comment Form

NAME: (Optional) R. S. MATTHEWS
ADDRESS: 152 DUPREE PLACE AIKEN, S.C. 29801
TELEPHONE: (803) 642-7145
E-MAIL: ~~***~~ N/A

The "Nuclear Weapons and Material Monitor" said the EIS had an "Appendix B" which evaluated aqueous processing for pit conversion (+ concluded that it could be done faster and it used proven technology. Where is this alternative in the EIS? I couldn't find it.

R. S. Matthews
8/12/08

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SCD96

SCD96-2

Plutonium Polishing and Aqueous Processing

At the time DOE issued the SPD Draft EIS, it believed the gallium content in the plutonium dioxide feed specifications for MOX fuel could be reached using the dry, thermal gallium removal method included in the pit conversion process. However, in response to public interest on this topic and to ensure adequate NEPA review in the event that the gallium specification could not be met with the thermal process, an evaluation of the potential environmental impacts of including a small-scale aqueous process (referred to as plutonium polishing) as part of either the pit conversion or MOX facility was presented in Appendix N of the SPD Draft EIS. On the basis of public comments received on the SPD Draft EIS, and the analysis performed as part of the MOX procurement, DOE has included plutonium polishing as a component of the MOX facility to ensure adequate impurity removal from the plutonium dioxide. Appendix N was deleted from the SPD Final EIS, and the impacts discussed therein were added to the impacts sections presented for the MOX facility in Chapter 4 of Volume I. Section 2.18.3 was also revised to include the impacts associated with plutonium polishing.



United States
Department
of Energy

Comment Form

August 13, 1998

NAME: (Optional) Ms Suzanne Matthews
ADDRESS: 152 Dunbar St, Aiken, SC 29801
TELEPHONE: 803 649-7145
E-MAIL: _____

1. We all know that MOX is manufactured commercially in Europe. How many commercial operations use a dry process to produce their plutonium oxide fuel?

2. I read in the Cost Report where the pit disassembly and conversion facility, their main operation in 2004. Could you give me an example - for the last 20 years - where DOE has been able to bring a \$500 million project from laboratory scale to operation in 5 years?

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SCD58

SCD58-1

Feedstock

None of the commercial MOX fuel plants in Europe currently use a dry process to produce plutonium dioxide.

SCD58-2

Pit Disassembly and Conversion

DOE believes that beginning operations of the pit conversion facility in 2004 is a reasonable schedule. While it is true that the pit conversion facility is the first consolidated facility for accomplishing this mission on a large scale, the processes that would be used in this facility are not entirely new. Many of these processes are in use at LANL and LLNL, and each specific operation in the dry pit conversion process has been successfully demonstrated. However, to ensure successful and timely transition to full-scale operation, DOE is testing these components as an integrated system at LANL. This pit disassembly and conversion demonstration is focusing on equipment design and process development and will provide information for fine-tuning the process and operational parameters prior to pit conversion facility operation. The information from the demonstration would be generated, gathered, and be available on a continuous basis throughout the facility design phase. A copy of the *Pit Disassembly and Conversion Demonstration EA* (DOE/EA-1207, August 1998) is available on the MD Web site at <http://www.doe-md.com>. In addition, because the information from this demonstration would be used to supplement other information developed to support the design of a full-scale pit conversion facility, it would not be necessary for the demonstration to be completed before beginning pit conversion facility design and construction.



United States
Department
of Energy

Comment Form

NAME: (Optional) Don McWhorter
ADDRESS: 804 Greenwood Drive North Augusta, SC 29841-2009
TELEPHONE: (803) 228-0097
E-MAIL:

I strongly support the pit disassembly mission at SRS.

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SCD95

SCD95-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

9/16/98

Mr. Howard R. Canter, Director
Office of Isotope Materials Disposition
U.S. Dept. of Energy
P.O. Box 23786
Washington DC, 20026-3786

Dear Mr. Canter,

I feel that the comment period on the SPD EIS was so short for a reason. It seems that the Dept. of Energy, along with other government people, have this plan on a very fast track and don't really want to hear what the rest of the country thinks about it.

Turning warhead plutonium into fuel pellets to be used in aging reactors is being presented as a way to recycle and disarm at the same time. The truth is that this process will also create nuclear waste. I agree that disarming is a good idea, but there has to be other options besides the two being presented, plutonium fuel pellets and glassification.

It would be prudent for the Dept. of Energy to spend some more time discovering safer ways to safeguard our surplus nuclear weapons.

Sincerely,
Leslie Minernd

2716 Olsson St
Columbia SC 29205

MD285

MD285-1

General SPD EIS and NEPA Process

A period of 60 days was allowed for public comment on the SPD Draft EIS, and DOE accepted comments submitted by various means: public hearings, mail, a toll-free telephone and fax line, and the MD Web site. Although it did not extend the comment period, DOE did consider, to the extent possible, comments received after the close of that period.

MD285-2

Alternatives

DOE acknowledges the commentor's support for reducing the nuclear weapons stockpile, and opposition to using either immobilization or the MOX approach to surplus plutonium disposition. DOE has extensively studied technologies for this purpose, and in the *Storage and Disposition PEIS* identified and evaluated a number of potentially acceptable technologies. However, many of these technologies were determined to be unacceptable for reasons of complexity, the cost or time for implementation, and the degree to which the resulting form met the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. Based on these analyses and other available information, the ROD for the *Storage and Disposition PEIS* reduced the number of technologies that would continue to be considered to those evaluated in this SPD EIS: immobilization in either a ceramic or glass form, and MOX fuel fabrication and irradiation. This SPD EIS evaluates the potential impacts of waste generation for each of the proposed alternatives. As described in Sections 2.18.3 and 4.28.2.8, additional spent fuel and other wastes would be produced by using MOX fuel instead of LEU fuel in domestic, commercial reactors. Spent fuel and waste management at the proposed reactor sites is not expected to change dramatically due to the substitution of MOX assemblies for some of the LEU assemblies. Likewise, the additional spent fuel would be a very small fraction of the total that would be managed at the potential geologic repository.



United States
Department
of Energy

Comment Form

NAME (Optional) Alice M. Murray
ADDRESS 40 Sanket Court, Irlow, Indiana 47503
TELEPHONE () 317-252-0220
E-MAIL: _____

1. Among the many issues that favor the location of the Assembly/Conversion Plant at SRS, the issue of the ease of transportation of plutonium. Concerns of pit material would result in the transportation of the SCSS for future disposition. The transportation process is not an obvious question right issue compared to pit transportation. In the interests of transportation safety, the conversion of the pit material should be done at SCSS.

2. Construction and operation of a pit assembly/conversion facility at SRS, necessarily increases the plutonium legacy cleanup that the Department of Energy will have to attend with in the future. The decommissioning and decontamination of other facilities will be expensive and time consuming. Location of the facility at SCSS will not significantly add to legacy issues that will need to be addressed at SCSS. Actual commitments of resources argue for the location of the pit assembly/conversion at SCSS.

3. There seems to be a conflict in DOE management of plutonium. DOE is allowing RFES to dispose of residues at 10 weight % plutonium at the Waste Isolation Pilot Plant (WIPP) is going to great lengths to control. But the plutonium residues go in high-level waste glass to meet the Spent Nuclear Fuel Standard. Why is some 10 weight % plutonium material allowed to be sent to WIPP but other 10 weight % plutonium material will require expensive processing and reprocessing?

SCD93

SCD93-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at SRS based on transportation concerns. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure. As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures or vehicle emissions are expected. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses (including analyses of transportation risks), technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

SCD93-2

Waste Management

Regardless of the site chosen, D&D would have to occur for the pit conversion facility at some time in the future and the process would be similar wherever the facility was located.

SCD93-3

Waste Management

The plutonium that is the subject of this SPD EIS is surplus weapons-usable plutonium that could be relatively easily used to build a nuclear weapon and must therefore be converted into a form that meets the Spent Fuel Standard. This weapons-usable plutonium is typically greater than 50 percent weight plutonium. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. The plutonium in the impure residues and scrub alloy (all of which contain less than 50 percent plutonium by weight) that are the subject of the *Final Environmental Impact Statement on Management of Certain Plutonium Residues and Scrub Alloy Stored at the Rocky Flats Environmental Technology Site* (DOE/EIS-0277F, August 1998) are not in the same form and present a lower proliferation risk.

DOE has determined that the waste management controls required for WIPP will provide adequate resistance to theft and diversion by unauthorized parties for the limited quantities of plutonium in RFETS residues (or any plutonium disposed with waste to WIPP). The waste management controls for the residues were evaluated to be consistent with international standards for physical protection of nuclear material within nations. In addition, the disposal of the residues avoids any processing that would increase material attractiveness.

DOE evaluated WIPP disposal during the screening of options for disposition of surplus weapons-usable plutonium. This is not a reasonable alternative because WIPP does not have sufficient capacity for the entire 50 t (55 ton) of material, and the option would not meet the Spent Fuel Standard for disposition of weapons-usable plutonium. The NAS report on plutonium disposition, *Management and Disposition of Excess Weapons Plutonium* (March 1994), concluded that direct geologic disposal of plutonium from weapons would not meet the Spent Fuel Standard.

**NATIONAL ASSOCIATION FOR THE ADVANCEMENT OF COLORED PEOPLE
JAMES GALLMAN, SR.
PAGE 1 OF 2**

My name is James Gallman, Sr.. I am President of the State of South Carolina Conference of Branches of the National Association for the Advancement of Colored People, more affectionately known as the State NAACP.

On behalf of the NAACP, allow me to express my support for the Pit Disassembly and Conversion mission at the Savannah River Site. The NAACP believes the existing infrastructure, experience, expertise, and previous plutonium accomplishments should be a major consideration in the Department of Energy locating the mission at SRS.

Also, it is my understanding that the DOE acknowledges that at least \$60 million can be saved if the mission is co-located with the Mixed Oxide Fuel Fabrication Plant and Immobilization at SRS. In fact, I understand that this is a conservative figure, which could be as high as \$75 million.

A year ago I served as the President of the Aiken Branch NAACP. The Branch passed a resolution regarding its support of SRS as the lead facility in plutonium management and disposition. Let me share that resolution with you. **READ RESOLUTION.**

As you can see by those present here today, the NAACP and the surrounding community fully supports the Savannah River Site and all the Plutonium Disposition Missions. This community support is unparalleled within the DOE complex.

Selecting SRS to receive the Pit Disassembly and Conversion is the right decision for SRS and our nation.

Thank you for allowing me this opportunity to speak to you for us and the many dedicated people of this community.

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SCD47

SCD47-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

NATIONAL ASSOCIATION FOR THE ADVANCEMENT OF COLORED PEOPLE
JAMES GALLMAN, SR.
PAGE 2 OF 2



AIKEN BRANCH
National Association For The Advancement Of Colored People
P.O. Box 1516
Aiken, South Carolina 29802

RESOLUTION

WHEREAS the handling and disposition of excess weapons plutonium is of grave concern to the national security of the United States; and

WHEREAS plutonium disposition represents one of the most certain future missions of the Department of Energy for the next 20 to 30 years; and

WHEREAS the Department of Energy has decided to pursue a dual path for plutonium disposition and has named the Savannah River Site as a candidate site for both options; and

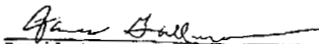
WHEREAS the Savannah River Site has produced approximately 40 percent of all United States weapons grade plutonium over the last 45 years and has safely handled plutonium in glovebox processing equipment with no adverse impact on workers, the public, or the environment; and


WHEREAS the Department of Energy in its Record of Decision recognizes the Savannah River Site as "a plutonium competent site with the modern, state-of-the-art storage and processing facilities ... with the only remaining large-scale chemical separation and processing capability in the DOE complex"; and

WHEREAS the regional community in the Central Savannah River Area (CSRA) of South Carolina and Georgia strongly supports continued plutonium missions for the Department of Energy's Savannah River Site;

NOW BE IT RESOLVED that the Aiken Branch of the National Association for the Advancement of Colored People (NAACP) strongly endorses major plutonium missions for the Savannah River Site and urges the Department of Energy to designate the Savannah River Site as its lead facility in plutonium management and disposition.

APPROVED this 27th day of March 1997 at Aiken, South Carolina by the Executive Board of the Aiken Branch NAACP.


President


Secretary

SCD47

RESOLUTION NO. 97-06
ENDORING MAJOR PLUTONIUM MISSIONS
FOR THE SAVANNAH RIVER SITE

WHEREAS, the handling and disposition of excess weapons plutonium is of grave concern to the national security of the United States; and

WHEREAS, plutonium disposition represents one of the most certain future missions of the U. S. Department of Energy for the next 20 to 30 years; and

WHEREAS, the Department of Energy has decided to pursue a dual path for plutonium disposition and has named the Savannah River Site as a candidate site for both options; and

WHEREAS, the Savannah River Site has produced approximately 40 percent of all U. S. weapons grade plutonium over the last 45 years and has safely handled plutonium in glovebox processing equipment with no adverse impact on workers, the public, or the environment; and


WHEREAS, the Department of Energy, in its Record of Decision, recognizes the Savannah River Site as "a plutonium competent site with the most modern, state-of-the-art storage and processing facilities...with the only remaining large-scale chemical separation and processing capability in the DOE complex"; and

WHEREAS, the City of North Augusta strongly supports continued plutonium missions for the Department of Energy's Savannah River Site.

NOW THEREFORE, BE IT RESOLVED by the Mayor and City Council in meeting duly assembled and by the authority thereof that the City of North Augusta strongly endorses major plutonium missions for the Savannah River Site and urges the Department of Energy to designate the Savannah River Site as its lead facility in plutonium management and disposition.

DONE, RATIFIED AND ADOPTED BY THE MAYOR AND CITY COUNCIL OF THE CITY OF NORTH AUGUSTA, SOUTH CAROLINA, ON THIS 3rd DAY OF March, 1997.


Thomas W. Greene, Mayor

ATTEST:

Leona J. Lewis, City Clerk

SCD98

SCD98-1

Alternatives

DOE acknowledges the commentors' support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

REMARKS OF MAYOR LARK JONES AT THE PUBLIC HEARING
Concerning SRS New Missions/ Pit disassembly and conversion

On behalf of the City of North Augusta, I would like to make a few brief comments concerning the upcoming decision by the Dept. of Energy in locating the plutonium pit disassembly and conversion missions.

The City of North Augusta publicly supports and endorses the Savannah River Site as the logical choice for this endeavor. I would like to place in the record and make a part of my comments, Resolution 98-16 which was adopted by the Mayor and City Council on August 3, 1998.

(Resolution read into the record)

SRS is the logical choice for many reasons:

1. The site, its size, facilities and location is excellent. While, I am a lay person not involved with the site, I'm sure that its continued safe operation for over 40 years means there is a great deal of infrastructure already in place that may not need to be duplicated for these new missions. Environmentally and security wise, I believe the site to be in good order. I can only speculate that the use of the current site at SRS would result in a cost savings of millions of taxpayer dollars.
2. The workforce is highly skilled and ready to do the job. Aiken County probably has one of the highest numbers of engineers per capita of any county in the United States...many of whom are skilled in the nuclear industry. Even if new training is required, we have the base from which to start, as well as the educational facilities with which to assist in any such needed training.
3. Past Record. The past record of the Savannah River site as to both performance and safety are excellent. As Mayor of a city of over 16,000 persons, I'm called upon daily to make judgments that affect the lives of our citizens. Examining the record of persons and entities that our city deals with is one of the major criteria we use in decision making. I urge DOE to follow that same philosophy. If you do, I'm sure you'll like what you find.

SCD15

SCD15-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. DOE is appreciative of the public support it has received from the local communities at all of the candidate sites for the surplus plutonium disposition program.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

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4. **Community Support.** To be sure, SRS has been an integral part of our community for 45 years now. Yes, it does have a very important economic impact as well, but nowhere, I dare say will you find anymore community acceptance and support for any nuclear type industry than here in Aiken County.

As someone who is charged with being the guardian of the dollars of taxpayers, I am concerned with budgets and costs. This weekend, I will have two kids in private colleges, so costs will be even more important to me on a personal level. I understand the need for costs savings and cost effectiveness in the areas before us. It would then follow that the most cost effective method to accomplish those goals would be to consolidate all plutonium operations at the Savannah River Site including Mox fuels as well as Pit disassembly and conversion.

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In summary, SRS has the facilities, the workforce, the track record and the necessary community support to do the job for this country! Finally, I do want to stress that we want to do the job for not North Augusta, not the CSRA, not South Carolina or Georgia but for our entire country.

This decision should be one based on merit, considering the factors of cost, workforce and facilities. It does not need to be a decision based upon politics, favors for one group or one sector or punishing of another.

Thank you.

RESOLUTION NO. 98-16
SUPPORTING THE PIT DISASSEMBLY AND CONVERSION MISSION
BEING LOCATED AT SAVANNAH RIVER SITE

WHEREAS, the Savannah River Site has demonstrated a continued strong leadership role in this nation's national security since the inception of the site; and

WHEREAS, the professional management team and employees of the Savannah River Site have the proven experience for continuing in this leadership role; and

WHEREAS, the Department of Energy has recognized the importance of and demonstrated their faith in the Savannah River Site by its decisions to locate the MOX and immobilization missions there; and

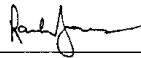
WHEREAS, the location of the third element of the plutonium disposition mission, pit disassembly and conversion, is now being reviewed by the Department of Energy; and

WHEREAS, the Savannah River Site is the only site being considered with the on site experience of processing plutonium and with the necessary infrastructure required for this critical mission.

NOW, THEREFORE BE IT RESOLVED by the Mayor and City Council in meeting duly assembled and by the authority thereof, and on behalf of the citizens of the City of North Augusta, that the Department of Energy is urged to select the Savannah River Site for its pit disassembly and conversion mission.

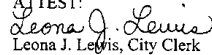
BE IT FURTHER RESOLVED that the citizens of North Augusta are encouraged to attend the Department of Energy's public meetings scheduled for Thursday, August 13, 1998 at 1:00 P.M. or 6:00 P.M. in the North Augusta Community Center and to voice their support for locating the pit disassembly and conversion mission at the Savannah River Site.

DONE, RATIFIED AND ADOPTED BY THE MAYOR AND CITY COUNCIL OF THE CITY OF NORTH AUGUSTA, SOUTH CAROLINA, ON THIS 3rd DAY OF August, 1998.



Lark W. Jones, Mayor

ATTEST:


Leona J. Lewis, City Clerk



SCD15

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Nuclear Information & Resource Service
Nuclear Control Institute
Public Citizen's Critical Mass Energy Project
Safe Energy Communication Council
Physicians for Social Responsibility
Global Resource Action Center for the Environment

FOR IMMEDIATE RELEASE

August 12, 1998
Contact: Michael Mariotte, Mary Olson (202)328-0002

**ENVIRONMENTAL, ARMS CONTROL, PEACE AND JUSTICE AND ENERGY
GROUPS SAY "NIX MOX!"**

NIRS to Comment at DOE Hearing in North Augusta, August 13, 1998

Non-Governmental Organizations representing taxpayers, the environmental community, energy consumers and those working to prevent nuclear proliferation stand in support of citizens in the Southeast who oppose the new proposals to make mixed oxide (MOX) plutonium fuel at the U.S. Department of Energy's (DOE) Savannah River Site (SRS). These organizations support the dismantlement of nuclear warheads and efforts to insure the plutonium from these weapons of mass destruction are secure and unavailable for use in future warheads.

This experimental conversion of nuclear warhead pits (plutonium-239) for use as fuel in nuclear power reactors does not make sense. When compared to the one alternative that DOE has identified—the immobilization of the plutonium-MOX would:

- cost more taxpayer money
- involve more steps where plutonium will be vulnerable to diversion or theft
- involve more steps where waste will be generated
- require a greater level of purity of the plutonium, and therefore more processing
- result in more waste from processing, more worker exposures and would cost more
- require a redesign of power reactors that were not designed for plutonium fuel
- lower the already thin margin of safety in aging power reactors
- significantly increase potential radiological consequences of a major reactor accident
- establish plutonium as a commodity
- remove any credible basis for the US to criticize hybrid military/energy programs in other countries, leading to situations like India and Pakistan
- take longer to accomplish the original goal of making the plutonium from nuclear weapons dismantlement unavailable for use in another nuclear weapon.

"MOX does NOT get rid of plutonium," said Mary Olson of the Nuclear Information & Resource Service, "Reactors do not burn anything, they split atoms. As plutonium atoms

SCD27

SCD27-1

MOX Approach

DOE acknowledges the commentors' opposition to the MOX approach. DOE has identified as its preferred alternative the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again. The fabrication of MOX fuel and its use in commercial reactors has been accomplished in Western Europe. This experience would be used for disposition of the U.S. surplus plutonium.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

Safeguards would be in place to ensure that neither approach would be vulnerable to diversion or theft.

The hybrid approach would result in slightly more waste being generated and greater worker exposure than the immobilization-only approach, but potential impacts to the public during normal operations are not expected to be major at any of the DOE candidate sites. Furthermore, DOE continues to prefer the hybrid approach for the reasons of practicality and leadership discussed above.

Although the MOX approach would require a greater level of purity than the immobilization approach, impacts including exposures, were considered in the analyses. As described in Sections 2.18.3 and 4.28.2.8, additional spent fuel would be produced by using MOX fuel instead of LEU fuel in domestic, commercial reactors. Spent fuel at the proposed reactor sites is not expected to change dramatically due to the substitution of MOX assemblies for some of the LEU assemblies. Likewise, the additional spent fuel would be a very small fraction of the total that would be managed at the potential geologic repository.

Commercial reactors in the United States are capable of safely using MOX fuel. The commercial reactors selected for the MOX approach include only those reactors whose operational life is expected to last beyond the life of the surplus plutonium disposition program. In addition, NRC would evaluate license applications and monitor operations of domestic, commercial reactors selected to use MOX fuel to ensure adequate margins of safety. Section 4.28.2.5 was added to include an analysis of the increased risks associated with accidents involving MOX fuel at the proposed reactors.

Section 4.28 was revised to provide reactor-specific analyses and discuss the potential environmental impacts of using a partial MOX core from routine operations and reactor accidents.

DOE's *RFP for MOX Fuel Fabrication and Reactor Irradiation Services* (May 1998) is constructed to ensure that plutonium is not a marketed commodity.

The disposition of surplus plutonium is not a military action. The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner.

Under either the immobilization-only approach or the hybrid approach, all 50 t (55 tons) of surplus plutonium would be processed out of the proposed plutonium disposition facilities over a 10- to 15-year period.

Operation of the proposed surplus plutonium disposition facilities is expected to take approximately the same amount of time for either approach. The difference in timing for the hybrid approach is associated with the amount of time that MOX fuel would be irradiated in domestic, commercial reactors. However, none of the proposed reactors are expected to operate longer under the hybrid approach than they would if they continued to use LEU fuel.

SCD27-2

MOX Approach

It is true that in the MOX approach only a fraction of the plutonium would actually be consumed in the reactor; but the remainder would be an integral part of massive spent fuel assemblies. The spent fuel assemblies would be so large and radioactive that any attempted theft of the material would require a dedicated team willing to suffer large doses of radiation, along with substantial equipment for accessing and removing the spent fuel from the storage facility and carrying it away.

Use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. The purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. The MOX facility would produce nuclear fuel that would displace LEU fuel that utilities would have otherwise purchased. If the effective value of the MOX fuel exceeds the cost of the LEU fuel that it displaced, then the contract provides that money would be paid back to the U.S. Government by DCS based on a formula included in the DCS contract.

are split in MOX fuel, new plutonium is being formed. The uranium present absorbs neutrons and creates new plutonium." She continued, "I think DOE's hidden agenda is to give nuclear utilities a direct taxpayer subsidy to keep their aging, uncompetitive nuclear reactors operating in the face of electric market deregulation. MOX is nothing more than nuclear welfare." Olson will be commenting for Nuclear Information and Resource Service at the DOE's public comment meeting in North Augusta on August 13, 1998.

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Paul Leventhal, president of the Nuclear Control Institute, commented that "DOE's own studies show that direct disposal of warhead plutonium as waste would be cheaper, faster and safer than turning it into MOX fuel. Therefore we should not reverse 20 years of U.S. policy against the proliferation risks of plutonium fuel. A U.S. MOX program only encourages other nations, like Japan and Germany, to continue their dangerous efforts to commercialize plutonium.

3

"Burning 200 tons of plutonium in reactors adds about \$1.7 billion to the costs of safeguarding it by other methods", said economist William Weida of the Global Resource Action Center for the Environment. "There is currently no way to economically use plutonium as reactor fuel and to proceed with the MOX program would be an abuse of taxpayer funds."

4

"Commercial reactors do not need to burn MOX fuel, they need to be shut down or phased out," said Linda Pentz, Communications Director of the Safe Energy Communication Council. "Nuclear power has proven to be economically and environmentally hazardous. Burning MOX fuel is misleadingly promoted as a method of "disposing" of surplus plutonium from nuclear weapons. In fact it does nothing of the kind, but instead creates greater volumes of radioactive waste with no solution yet found for safe and perpetual storage."

5

"Joining the commercial and weapons arms of nuclear industry will hasten the demise of commercial nuclear power in the United States," said James Riccio of the Public Citizen Critical Mass Energy Project. "The MOX program reveals the true nature of commercial nuclear power. It was linked to the nuclear weapons project from the cradle and this will be its grave."

CONTACTS

Nuclear Information & Resource Service
Mary Olson (202) 328-0002

Safe Energy Communication Council
Linda Pentz (202) 483-8491

Nuclear Control Institute
Edwin Lyman (202) 822-8444

Physicians for Social Responsibility
Lisa Ledwidge (202) 898-0150 ex 222

Global Resource Action Center
for the Environment
Alice Slater (212) 726-9161

Public Citizen's Critical Mass Energy Project
James Riccio (202) 546-4996

SCD27

SCD27-3

MOX Approach

By fabricating MOX fuel from surplus plutonium, the United States is not encouraging either domestic or foreign commercial use of plutonium. Consistent with the U.S. policy of discouraging the civilian use of plutonium, a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation would be a once-through cycle with no reprocessing.

Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

SCD27-4

MOX Approach

The goal of the surplus plutonium disposition program is not simply safeguarding the plutonium indefinitely, but also dispositioning the plutonium in an environmentally safe, cost-effective, and timely manner. Converting the surplus plutonium into MOX fuel and using it in domestic, commercial reactors is an effective way to accomplish this.

Because cost issues are beyond the scope of this SPD EIS, this comment has been forwarded to the cost analysis team for consideration. As explained in response SCD27-1, the cost report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

SCD27-5

MOX Approach

This comment is addressed in responses SCD27-1 and SCD27-2.



R & H MAXXON, INC.

August 13, 1998

Mr. Howard R. Canter, Acting Director
Office of Fissile Materials Disposition
US Department of Energy
100 Independence Avenue
Washington, DC 20585

Dear Mr. Canter:

I am the co-owner of a local business with 52 retail outlets in South Carolina and Georgia. I am writing to express my support for the assignment of all three portions of the Surplus Plutonium Disposition mission to the Savannah River Site.

Former Secretary Pena stated and your Draft Environmental Impact Statement correctly concludes that Savannah River is the preferred alternative for the MOX fuel fabrication and immobilization portions of this important non-proliferation mission because of its staff expertise, plutonium infrastructure and exemplary safety performance. These same considerations hold true for the Pit Disassembly and Conversion Facility, and your decision should be to similarly assign this portion of the Surplus Plutonium Mission to Savannah River.

As a taxpayer, I expect this work to be performed in the safest, most reliable and cost-efficient manner. Savannah River has a record of performance and its safety record sets the standard for the rest of DOE. Savannah River also offers the assurance that the total program can be accomplished for the fewest taxpayer dollars. All of the plutonium infrastructure and staff expertise currently exist at Savannah River, and several hundreds of millions of dollars can be saved if they are not unnecessarily duplicated elsewhere.

The two state Central Savannah River Area has a long and supportive relationship with DOE. We welcome and support the Surplus Plutonium Disposition program because of its importance to international non-proliferation goals. Our support is also based on the knowledge that Savannah River can conduct this program to the highest levels of safety. The active support of the local communities will help assure that this important program can be conducted in the most expeditious manner.

Thank you for the opportunity to comment on this important matter.

Sincerely,

Tim Dangerfield
Vice-President

SCD45-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

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RADCHEMCO
H. PERRY HOLCOMB
 PAGE 1 OF 4



Environmental Radiochemistry,
 Radiochemical Characterization of
 Waste Sites and Solid Waste,
 Actinide Processing Chemistry

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August 13, 1998

Ms. Laura Holgate
 Director, Office of Fissile Materials Disposition
 U. S. Department of Energy
 P. O. Box 23786
 Washington, DC 20026-3786

Re: Comment on the Surplus Plutonium Disposition (SPD) Draft Environmental Impact Statement (EIS)

Dear Ms. Holgate:

I attended the afternoon session of the public meeting that the DOE held in North Augusta, SC today regarding the SPD Draft EIS. Near the end of the afternoon session I made a presentation regarding the intrinsic worth of the plutonium being dispositioned by the DOE via this EIS. This letter to you serves to put these comments into a formal submission to the DOE.

I retired from the SRS two years ago after 36 years of service to du Pont and to Westinghouse, the prime contractors there. Twenty of those years were in analytical and separations chemistry support and development at SRTC; eleven and one-half were in F Area in technical support of separations activities, including programs involving the recovery of plutonium from CTSMO scrap and scrub alloy from Rocky Flats; and the final four and one-half years were spent in support of environmental restoration activities primarily involving the radiochemical characterization of SRS waste sites and wastes therefrom.

Since retiring from WSRC, I have continued to serve as a radiochemical consultant for environmental restoration matters to SAIC, to Rust Environmental, and to Duke Engineering and Services, all SRS subcontractors.

My comments regarding the draft SPD EIS are twofold:

- I wholeheartedly support the SRS as the site to locate the pit disassembly and conversion mission. SRS has the infrastructure, the personnel, and the overwhelming support of the local public to make such a mission a success there. Needless to say, it would be most cost effective to locate the pit disassembly and conversion mission at SRS rather than at Pantex. And then DOE must ask itself the question, "Why contaminate another site in the complex with the plutonium waste that will result?" That is already a *fait accompli* at SRS. | 1
- The DOE is charged with managing a national treasure in the 50 metric tons of surplus plutonium addressed by the draft EIS. I asked a question in today's | 2

MD022

MD022-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

MD022-2

DOE Policy

DOE acknowledges the commentor's concern regarding the market value of surplus plutonium and agrees that there is an intrinsic worth to plutonium from its energy content. However, it is not valid to compare the fuel prices for plutonium versus fossil fuels because the costs to use the two fuels are very different. The real measure of the worth of plutonium as a fuel is its ability to generate electricity in the open market. These values are estimated in three reports, *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), and the *Technical Summary Report for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0003, October 1996), all of which are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

All of the surplus plutonium would not be made into MOX fuel because some of it is not suitable for fabrication due to the complexity, timing, and cost that would be involved in purifying the material. Also, pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest

Ms. Laura Holgate
Director, Office of Fissile Materials Disposition, USDOE

Page 2

public meeting that no one present could answer, "Just how much is that 50 metric tons of plutonium worth?" I am somewhat appalled that DOE is even considering immobilizing part (17 metric tons) or all of this very valuable energy source. I would urge the DOE to not immobilize a single gram of the surplus plutonium that could eventually be used for MOX, even if pretreatment of the scrap might be necessary. My reasons follow.

The intrinsic value, energywise, of the 50 metric tons of plutonium should be made known to the public by DOE and should be included in the final EIS as public record. Nowhere have I seen this mentioned or brought forth in any analysis. So, please allow me to develop for you my very simple approach to placing a value on the surplus 50 metric tons of plutonium covered by the draft EIS.

The following data come from the web site of the Amarillo National Resource Center for Plutonium (the Center), <http://www.pu.org>:

- The energy in one metric ton (1000 kg, or 1000 g/kg X 1000 kg = 1E+06 grams of plutonium) is equivalent to that in:
 - 4 million metric tons of coal (or 1 gram Pu = 4 metric tons of coal), or
 - 15 million barrels of oil (or 1 gram Pu = 15 barrels of oil)
- The energy in one metric ton of plutonium can supply a year's worth of electricity to a population center of 790,000.

Now, developing from the foregoing facts as given by the Center:

- The energy in 50 metric tons of plutonium is therefore equivalent to:
 - 200 million metric tons of coal (50 X 4 million), or
 - 750 million barrels of oil (50 X 15 million).

Developing further:

- So, the intrinsic energy value of 50 metric tons of plutonium can be either:
 - **\$29.7 billion** (as derived from: 200 million metric tons of coal is 220 million short tons. The price of bituminous coal is \$135 per short ton, as quoted to me today by the Dixie Ice and Coal Company in Augusta, GA; or (220E+06 short tons X \$135/short ton = \$2.97E+10), or
 - **\$9.0 billion** (as derived from: 750 million barrels of oil X \$12/barrel = \$9.0E+09).

And:

- The energy equivalent of 50 metric tons of plutonium can supply the electric needs for **50 years** to a city with the combined population (approximately 790,000) located in the South Carolina counties of Aiken, Charleston, and Greenville, according to the 1990 census.

MD022

possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

2

Ms. Laura Holgate
Director, Office of Fissile Materials Disposition, USDOE

Page 3

The DOE is charged with managing an extremely valuable energy resource in the surplus plutonium. The draft EIS states that 17 metric tons of plutonium is destined for immediate immobilization because of its waste form and/or quantity and nature of contaminants. I submit to you that SRS currently has most of the facilities and the personnel to possibly recover several metric tons of plutonium from these "scrap" forms and convert it into a useful energy source, MOX.

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Each metric ton, so saved from permanent disposal and converted to MOX, is worth, at a minimum, the equivalent of 15 million barrels of oil. At a very conservative price of \$12/barrel for oil, each metric ton of plutonium so saved is worth \$180 million! Its worth, in terms of four million metric tons of bituminous coal, is \$594 million!!

I have not done any analysis regarding the environmental effects that would be caused by the burning of the 200 million metric tons of coal or the 750 million barrels of oil represented by the energy in the 50 metric tons of surplus plutonium. That is really outside my expertise. However, I would request that the DOE perform this evaluation and include the results in the final SPD EIS. Such additional information may overwhelmingly support converting as much of the surplus plutonium as possible into MOX.

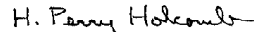
3

I urge you to implement measures to save, and use for MOX, every possible gram of surplus plutonium. As a start, a technical task force should be established to evaluate such scrap recovery operations, which could take place at the SRS in F-Canyon and FB-Line and the other special processing operations associated with these SRS separations facilities. By reclaiming every metric ton of plutonium possible from the 17 metric tons of "scrap" plutonium, the DOE could not only save the American Taxpayers more than \$100 million but also could be very, very proud of such an extremely important recycling effort.

4

Thank you for the courtesy, attention, and interest shown by you and the other DOE staff to the attendees at the North Augusta meeting this afternoon.

Sincerely,



H. Perry Holcomb, Ph. D.

MD022

MD022-3

General SPD EIS and NEPA Process

An analysis of the potential energy value of surplus plutonium was done as part of the *Storage and Disposition PEIS* (see Section 4.9). According to that analysis, MOX fuel use would likely have minor impacts on the environment and the nuclear fuel cycle industries.

The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. Converting the surplus plutonium into MOX fuel and using it in domestic, commercial reactors is an effective way to accomplish this. Consistent with the U.S. policy of discouraging the civilian use of plutonium, a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation would be a once-through cycle with no reprocessing.

Obtaining energy from the surplus plutonium is a secondary consideration. It is not expected that the energy value of the surplus plutonium will be a consideration in the decision on the location of disposition facilities or the amount of plutonium (0 to 33 t [0 to 36 tons]) to be dispositioned as MOX fuel.

MD022-4

Alternatives

DOE has identified as its preferred alternative a hybrid approach of using both immobilization and MOX fuel fabrication to disposition up to 50 t (55 tons) of surplus plutonium. Under this alternative, approximately 33 t (36 tons) of clean plutonium metal and oxides would be used to fabricate MOX fuel, which would be irradiated in domestic, commercial reactors. The remaining 17 t (19 tons) of surplus, low-purity, nonpit plutonium is not suitable for fabrication into MOX fuel because of the complexity, timing, and cost that would be involved in purifying those plutonium materials. Finally, use of the

F-Canyon or FB-Line for conducting plutonium recovery operations in support of the plutonium disposition program as suggested by the commentor would extend their life beyond the timeframe that DOE currently intends to operate these facilities.



United States
Department
of Energy

Comment Form

NAME: (Optional) Bill Randall
ADDRESS: 17 white oak Dr. N. Augusta, SC 29860
TELEPHONE: () _____
E-MAIL: _____

Isn't the environmental impact to
the local community minimized @ SRS
due to 310 square mile plant size
versus the 25 sq. mile plant at Pantex?

1

SCD70

SCD70-1

Facility Accidents

Appendixes K.4 and K.5 describe the potential accident impacts to a hypothetical maximum receptor at each respective site boundary. Although most accidents (and normal operations) were calculated to yield somewhat higher doses to this receptor at Pantex (due to the site boundary being closer to the release location, meteorology, etc.), the differences from a health risk standpoint were found to be quite minor in most cases. This assertion is illustrated when comparing cancer risk values given in Tables K-12, K-3, K-14, and K-25. DOE facilities are sited and designed in such a manner that significant protection is provided for the health and safety of the public.

As discussed in DOE Orders 420.1 and 6430.1a, there are a number of factors that are considered in the decisionmaking process for siting a facility within the DOE complex. These factors include topography, seismology, geology, hydrology, and radiological dose limiting criteria. No matter where a given facility is built, it must satisfactorily comply with all applicable guidance for the protection of worker and public health and safety.



**United States
 Department
 of Energy**

Comment Form

NAME: (Optional) R. E. Rapy

ADDRESS: 1639 HUCKLEBERRY DR, Aiken SC

TELEPHONE: (803) 644-3678

E-MAIL: THE FUTURE ENERGY REQUIREMENTS OF THIS COUNTRY MAKE THE CONVERSION OF EXCESS PLUTONIUM TO ENERGY PRODUCTION THE MOST SENSIBLE MEANS OF DISPOSAL.

AS MUCH AS ECONOMICALLY POSSIBLE OF THE EXCESS PU SHOULD BE CONVERTED TO MOX IMMobilIZATION SHOULD BE A LAST RESORT.

SRS IS VERY SUITED TO PERFORM THIS MISSION.

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SCD68

SCD68-1

MOX Approach

DOE acknowledges the commentor's support for the MOX approach. DOE has identified as its preferred alternative a hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again. Under this approach, approximately 33 t (36 tons) of clean plutonium metal and oxides would be used to fabricate MOX fuel, which would be irradiated in domestic, commercial reactors. The remaining 17 t (19 tons) of surplus, low-purity, nonpit plutonium is not suitable for fabrication into MOX fuel because of the complexity, timing, and cost that would be involved in purifying those plutonium materials.

SCD68-2

Alternatives

DOE acknowledges the commentor's support for siting the MOX facility at SRS. As indicated in Section 1.6, SRS is preferred for the MOX facility because this activity complements existing missions and takes advantage of existing infrastructure and staff expertise. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

RIDGEWAY, ROBERT G.
PAGE 1 OF 2

Author: HOWARD CANTER at md-OL
 Date: 3/16/1998 5:52 PM
 Priority: Normal
 TO: DAVID NULTON, BERT STEVENSON
 Subject: Opposed to SC receiving Plutonium - Request Hearings
 Dear Director Canter and Under Secretary Holgate,

As a former employee of the South Carolina Department of Health & Environmental Control's Nuclear Emergency Planning Section, I can tell you from experiencing the problem from the INSIDE, we as citizens of the beautiful state of South Carolina do not need nor want to be the repository of any more Plutonium or other nuclear substance. I would like to request that hearings be held in Columbia, SC.

The citizens of South Carolina deserve equal opportunity to understand and discuss and vote on this question, which has up-to-now been largely monopolized by the few with special interest (read: \$\$\$).

We do not need to be the dumping ground of the nation - no permanent site has been settled upon, so we'll probably wind up keeping it. We do not need to live under the multiple threats to our health and safety. We do not need to hold GENERATIONS of South Carolinians' lives - our descendants! - hostage.

Thank you for your help in this serious issue.

Sincerely,
 Robert G. Ridgeway

1408 Cedar Terrace St.
 Columbia, SC 29209

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2

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FD331

FD331-1

Alternatives

DOE acknowledges the commentator's opposition for siting the proposed surplus plutonium disposition facilities at SRS, and request to have public hearings in Columbia, South Carolina. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Each of these facilities would process some fraction of the surplus plutonium so that it could be permanently disposed of in a potential geologic repository. Only the immobilized plutonium, in canisters of vitrified waste from DWPF, would be stored at SRS for any length of time, pending availability of the potential geologic repository. DOE is presently considering a replacement process for the in-tank precipitation (ITP) process at SRS. The ITP process was intended to separate soluble high-activity radionuclides (i.e., cesium, strontium, uranium, and plutonium) from liquid HLW before vitrifying the high-activity fraction of the waste in DWPF. The ITP process as presently configured cannot achieve production goals and safety requirements for processing HLW. Three alternative processes are being evaluated by DOE: ion exchange, small tank precipitation, and direct grout. DOE's preferred immobilization technology (can-in-canister) and immobilization site (SRS) are dependent upon DWPF providing vitrified HLW with sufficient radioactivity. DOE is confident that the technical solution will be available at SRS by using radioactive cesium from the ion exchange or small tank precipitation process. A supplemental EIS (DOE/EIS-0082-S2) on the operation of DWPF and associated ITP alternatives is being prepared.

This SPD EIS, for the purposes of analysis, assumes that Yucca Mountain, Nevada, would be the final disposal site for all immobilized plutonium and MOX spent fuel. As directed by the U.S. Congress through the NWPA, as amended, Yucca Mountain is the only candidate site currently being characterized as a potential geologic repository for HLW and spent fuel. DOE has prepared a separate EIS, *Draft Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada* (DOE/EIS-0250D, July 1999), which analyzes the environmental impacts from construction, operation and monitoring, related transportation, and eventual closure of a potential geologic repository.

To provide for public comment on the SPD Draft EIS, DOE conducted public hearings near the potentially affected DOE sites, and thus with the most directly affected populations. Approximately 1,700 copies of the SPD EIS were mailed, and an NOA letter was mailed to an additional 5,500 members of the public. The proposed actions do not involve disposal of surplus plutonium in South Carolina. Hearings for SRS were held in North Augusta, South Carolina. DOE provided appropriate opportunities and means for public comment on the program, and gave equal consideration to all comments, regardless of how they were submitted: public hearings, mail, a toll-free telephone, and fax line. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

FD331-2

General SPD EIS and NEPA Process

During the comment period for this SPD EIS, July 17 through September 16, 1998, DOE hosted five public hearings that provided opportunities for oral and written comments from the public. These hearings, which were open to all individuals and organizations, included afternoon and evening hearings in the North Augusta Community Center in North Augusta, South Carolina.



United States
Department
of Energy

Comment Form

NAME (Optional) George C. (Chaz) Rodrigues
ADDRESS: 1703 Highland Park Avenue, Aiken SC 29801
TELEPHONE (803) 668-5774
E-MAIL: chazrod@Aiken.com

While the work force at Pantex is very capable at their current mission, I know from my personal experience that they have no capability or infrastructure to handle or process plutonium on-site (finished, fabricated or metal component/pile). This includes both operations as well as facility design and construction. Pantex would have to start from square one to build such a knowledge, skill, and experience base as well as build facilities (basically on a "green" or "hot" facility). Significant lower site base a highly refined knowledge, experience, and specific skill base to perform plutonium processing work such as this - we have been doing this for forty five years. We have facilities with all required infrastructure and capability - It would be very cost effective to convert these facilities to disassemble excess pile and process all plutonium in them for disposition. It makes no sense from any viewpoint to locate this unique knowledge against SRS. I make these comments with twenty years of hands on plutonium experience in design, manufacturing, and facility design, construction and startup at
George C. Rodrigues
Jan 2004

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SCD61-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

SCD61

SAVANNAH RIVER REGIONAL DIVERSIFICATION INITIATIVE
THOMAS J. STONE ET AL.
PAGE 1 OF 1



SAVANNAH RIVER REGIONAL DIVERSIFICATION INITIATIVE
Aiken, South Carolina 29802, (803) 593-9954 ext. 1409 FAX (803) 593-4296

RESOLUTION

Whereas the handling and disposition of excess weapons plutonium is of grave concern to the national security of the United States; and

WHEREAS plutonium disposition represents one of the most certain future missions of The U.S. Department of Energy for the next 20 to 30 years; and

WHEREAS The Department of Energy has already chosen the Savannah River Site as the site for MOX Fuel Fabrication and Immobilization because of the Site's capabilities as DOE's only operating plutonium processing site; and

WHEREAS consolidating all three of the new plutonium disposition facilities, including the Pit Disassembly and Conversion Facility, at the Savannah River Site would save at least \$1.6 billion, compared to establishing and maintaining the required capabilities at other sites; and

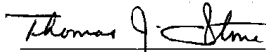
WHEREAS the Savannah River Site has produced approximately 40 percent of all U.S. weapons grade plutonium over the last 45 years and has safely handled plutonium in glovebox processing equipment with no adverse impact on workers, the public or the environment, and

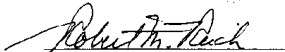
WHEREAS the Department of Energy in its Record of Decision recognizes the Savannah River Site as "a plutonium competent site with the most modern, state-of-the-art storage and processing facilities...with the only remaining large-scale chemical separation and processing capability in the DOE complex"; and

WHEREAS the regional community in the Central Savannah River Area (CSRA) of South Carolina and Georgia strongly supports continued plutonium missions for the Department of Energy's Savannah River Site;

NOW BE IT RESOLVED that the Savannah River Regional Diversification Initiative (SRRDI) strongly endorses major plutonium missions for the Savannah River Site and urges the Department of Energy to designate the Savannah River Site as its lead facility in Mixed Oxide Fuel Fabrication, Immobilization, and Pit Disassembly and Conversion.

APPROVED this 15th day of August 1998 at Aiken, South Carolina, by the Savannah River Regional Diversification Initiative Board of Directors.


Thomas J. Stone
Chairman


Robert M. Reich
Secretary

SCD25

SCD25-1

Alternatives

DOE acknowledges the commentors' support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

SAVANNAH RIVER SITE RETIREE ASSOCIATION
TOM GREENE
PAGE 1 OF 1

August 13, 1998

PUBLIC HEARING – PIT DISASSEMBLY & CONVERSION

Mr. Chairman:

I am Tom Greene, Chairman of the Savannah River Site Retiree Association. The Association is less than a year old and has already achieved a membership of over 500 retirees. We are growing at a very steady rate and we expect we will eventually represent the 2000 WSRC & BSRI retirees.

At our Board meeting on August 4, 1998 the Board voted unanimously to support the critical third element of the Department of Energy Plutonium Disposition Mission – The Pit Disassembly and Conversion. The reasons for this strong support are:

1. First of all, it makes sense that all three missions be placed at one location such as Savannah River Site because SRS has the infrastructure and the expertise to effectively handle the mission.
2. Secondly, use of SRS for all three parts of the plutonium disposition mission would result in a cost savings of approximately \$1.6 Billion based on avoided costs of new structure and equipment that would be required at other DOE sites.
3. Third, the DOE has already expressed confidence in the SRS team by assigning two of the three missions to SRS – the MOX and immobilization missions.
4. Fourth, SRS is better equipped and better experienced than Pantex to effectively handle all three missions.
5. Last and most importantly, I speak not only as chairman of the retiree organization but also as former Mayor of the City of North Augusta - the citizens of our area continue to strongly support the Savannah River Site and its missions. We have worked hard in the past and are working hard now, to insure that in the future the SRS continues to be a strong economic engine in our area and continues to play a leadership role in the security of our Nation.

Thank You,

Tom Greene,
 Chairman,
 Savannah River Site Retiree Association(SRSRA)

SCD22

SCD22-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

THANK YOU, MR. MODERATOR

MY NAME IS Tim Moore AND I AM THE MAYOR OF [REDACTED] SNELLING,
[REDACTED]

IN THIS CAPACITY AND FROM A PROFESSIONAL VIEW, I AM
EXTREMELY INTERESTED IN WHAT HAPPENS WITH THE SAVANNAH
RIVER SITE AND THE THOUSANDS OF FINE EMPLOYEES THAT WORK
THERE.

I AM NOT A NUCLEAR ENGINEER AND NOT AN EXPERT ON
PLUTONIUM, BUT I DO UNDERSTAND FINANCES. AND WHAT I HAVE
LEARNED OVER THE PAST FEW MONTHS IS THAT THE COST OF
LOCATING THIS MISSION ANYWHERE OTHER THAN THE SAVANNAH
RIVER SITE WOULD BE A DISSERVICE TO THE TAXPAYERS OF THIS
GREAT COUNTRY. YOUR OWN REPORTS AND STUDIES SHOW THE
CONSOLIDATION OF THE PLUTONIUM MISSION AT ONE SITE SAVES
MILLIONS AND MILLIONS OF DOLLARS. "

AND TO TRAIN ANOTHER WORKFORCE FROM ANOTHER LOCATION TO
DO WHAT THE SAVANNAH RIVER FOLKS ALREADY KNOW HOW TO DO

1

SCD41

SCD41-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

SNELLING
HONORABLE TIM MOORE
PAGE 2 OF 2

IS NOT VERY RESPONSIBLE.

I URGE YOU TO TAKE THE MESSAGE BACK TO THE DEPARTMENT OF
ENERGY IN WASHINGTON, THAT OUR COMMUNITIES SUPPORT THE
PLUTONIUM DISPOSITION MISSION BEING LOCATED AT THE
SAVANNAH RIVER SITE.

AND AS YOUR OWN RESEARCH SHOWS YOU, IT IS THE FINANCIALLY
RIGHT THING TO DO!!

THANK YOU.

1

SCD41



State of South Carolina

Office of the Governor

DAVID M. BEASLEY
GOVERNOR

Post Office Box 11369
COLUMBIA 29211

May 5, 1998

The Honorable Federico Peña
Secretary of Energy
United States Department of Energy
1000 Independence Avenue
Washington, D.C. 20585

Dear Secretary Peña,

The State of South Carolina has long been a primary supporter of the Department of Energy's National Defense and Environmental Clean-Up Missions. It is my understanding that the Department is taking an "integrated" approach to addressing clean-up issues, and this will again require significant involvement from the State of South Carolina due to the extensive expertise, capabilities, and infrastructure available at the Savannah River Site (SRS).

While the dialogue on clean-up continues, I understand that the Department of Energy plans to announce the selection of preferred sites for the three components of the Plutonium Disposition Program and the nation's new source of tritium in the near future. In the midst of this decision making process, I feel it is very important that the Savannah River Site be strongly considered for all three components of the Plutonium Disposition Program (Plutonium Disassembly and Conversion, Mixed Oxide Fuel and Immobilization), and for the Accelerator to be selected as the nation's source of tritium.

I believe it is unwise to overlook the inherent savings that arise from integration of the plutonium missions at the Savannah River Site. No other Department of Energy facility has the experience and infrastructure needed to complete the disposition program in a timely and cost effective manner. It is my understanding that consolidation of this mission will significantly reduce the up-front capital investment in new facilities, and will reduce the overall cost of the program by over \$1 billion dollars. Therefore, I strongly support consolidating all three of the plutonium disposition facilities at the Savannah River Site.

Further, I feel that the selection and commitment to build the linear accelerator represents the Department's best option for supplying the nation's tritium demands. It is a clean technology that is the right choice for the environment. Also, the Accelerator Production of Tritium (APT) does

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SCD74

SCD74-1

Alternatives

DOE acknowledges the Governor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

SCD74-2

DOE Policy

Accelerator production of tritium is beyond the scope of this SPD EIS. It was analyzed in the *Final Programmatic Environmental Impact Statement for Tritium Supply and Recycling* (DOE/EIS-0161, October 1995). The Secretary of Energy announced in December 1998 that he selected TVA's Watts Bar and Sequoyah reactors as the preferred facilities for producing a future supply of tritium. Consistent with DOE's dual-track strategy for tritium production, the linear accelerator option was designated as a backup technology. DOE would complete key research and development milestones for the accelerator but would not complete construction.

SOUTH CAROLINA, OFFICE OF THE GOVERNOR
HONORABLE DAVID M. BEASLEY
PAGE 2 OF 2

Secretary Peña
May 5, 1998

Page 2

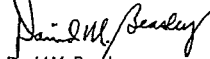
not have the policy concerns that have been raised regarding the Commercial Light Water Reactor. With the APT, the clear historic separation of civilian and defense missions will be preserved. Further, it holds the promise of exciting new technology and with the new modular design, the cost is more than competitive with the cost of the proposed completion of a Tennessee Valley Authority reactor.

2

The Savannah River Site is clearly the logical choice for these missions. I ask you to fully consider the consolidation of all the plutonium disposition activities at SRS and the selection of the APT as the nation's new tritium source. The awarding of these missions to SRS will clear the way for the State of South Carolina to continue its long-standing role as an active and supportive partner of the Department's national goals.

3

Sincerely,



David M. Beasley

- cc: Senator Strom Thurmond
- Senator Fritz Hollings
- Representative Floyd Spence
- Representative Lindsey Graham
- Representative Mark Sanford
- Representative Bob Inglis
- Representative Jim Clyburn
- Representative John Spratt

SCD74

SCD74-3

Alternatives

This comment has been forwarded to the Office of Commercial Light Water Reactor Production.



State of South Carolina

Office of the Governor

DAVID M. BEASLEY
GOVERNOR

POST OFFICE BOX 11369
COLUMBIA, SC 29211

June 18, 1997

To the Department of Energy and concerned citizens of the SRS Community:

Thank you for affording me the opportunity to comment on the proposed scope of the Surplus Plutonium Disposition Environmental Impact Study.

As most of you may already know, I had the opportunity to meet with the South Carolina Congressional Delegation in Washington several weeks ago. At that meeting, your elected representatives pledged to work towards securing new missions for the Savannah River Site (SRS), while ensuring a viable long term disposal plan. I have pledged to support this effort and stand ready to follow their leadership in protecting this federal reservation.

I regret that my schedule does not allow me to be with you in person, but if Congress and the Department of Energy decide to pursue this dual pathway for disposition, then I would request that SRS be fairly considered. With an online vitrification process, plutonium processing facilities, and over 40 years of experience and expertise in the field, plutonium disposition appears to be a mission that the Savannah River Site is uniquely qualified to perform.

Thank you for your time and attention.

Sincerely,

David M. Beasley

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SCD75

SCD75-1

Alternatives

DOE acknowledges the Governor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

SOUTH CAROLINA, OFFICE OF THE GOVERNOR
HONORABLE DAVID M. BEASLEY
PAGE 1 OF 1



State of South Carolina

Office of the Governor

DAVID M. BEASLEY
GOVERNOR

August 13, 1998

Ms. Laura Holgate
United States Department of Energy
Office of Fissile Materials Disposition
MD-4 Forestall Building
1000 Independence Avenue, SW
Washington, DC 20588

Dear Ms. Holgate,

I regret that my schedule does not allow me to be with you in person, but I appreciate the opportunity to comment on the Surplus Plutonium Disposition Draft Environmental Impact Statement.

I strongly endorse the Savannah River Site (SRS) for the entire surplus plutonium disposition mission. As you are well aware, the State of South Carolina has long been a patriotic partner of the department's national defense and environmental clean-up missions. This historical service to the nation has been exemplified by the site's commitment to excellence. It is this trademark quality that is so explicitly displayed in the Savannah River Site's selection as the preferred site for both the immobilization facility and the mixed-oxide fuel fabrication facility.

Given this acknowledgment by the department, the overall integrity of the mission should not be sacrificed by splintering the disposition of surplus plutonium. Consolidation of this mission at SRS will reduce the up-front capital investment in new facilities and life cycle costs by over one billion dollars. Further, there is no other site within the Department of Energy complex that can claim the expertise, infrastructure and citizenry support of over 40 years that are the hallmarks of the Savannah River Site Complex and community.

The Savannah River Site is the logical, financial and technical choice for the department's entire surplus plutonium disposition mission. It is the right choice for the Department of Energy and the nation. I am confident your analysis will compel the same conclusion.

Sincerely,

David M. Beasley

SCD14

SCD14-1

Alternatives

DOE acknowledges the Governor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

**Remarks by State Treasurer Richard Eckstrom
August 13, 1998 Environmental Impact Public Statement Hearing
North Augusta Community Center**

My name is Richard Eckstrom, and I'm the treasurer of the State of South Carolina. --- I'm here today to voice my support for the Savannah River Site. --- I also want to talk about taxpayer issues --- regarding DOE's Plutonium Disposition Program.

SRS is the largest industrial employer in the State of South Carolina. --- It employs more than 14,000 people. --- Seventy percent of its workforce lives in South Carolina. --- The total economic impact of SRS to this area --- is approximately 2 billion dollars annually.

We're proud of the contribution that SRS has made to our national security through the years. --- Since the site began operating in the 1950s, it has been a major participant in our defense industry. --- From its inception, SRS has developed and maintained the highest levels of safety and consideration for its workforce, the public and our natural resources in this area.

SCD50

SCD50-1

Alternatives

DOE acknowledges the commentator's support for siting the pit conversion facility at SRS. DOE considers all the candidate sites suitable for disposition activities from a public acceptance, safety, and conduct of operations viewpoint. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

We're proud that SRS is the only "truly operational site" remaining in the DOE Complex. ---- Hanford and Rocky Flats are strictly in clean-up modes, as they have been for several years. ---- The Pantex plant in Texas has never been anything but an assembly-and-dismantlement site.

We agree with DOE's assessment ---- just last year---- when it said that SRS is (quote) ---- "a plutonium competent site with the most state-of-the-art storage and processing facilities, and a site with the only remaining large-scale chemical separation and processing capability in the DOE complex." (end quote)

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Pantex, which is now competing with SRS for the Pit Disassembly and Conversion mission, ---- has never processed plutonium ---- it has only stored it. I would remind you that Pantex has neither the experience ---- nor the necessary infrastructure ---- to do this work.

2

SCD50

Consider the following financial facts that emphatically support the selection of SRS for this mission:

First, unless SRS is chosen for the Pit Disassembly and Conversion work, the infrastructure that exists at SRS would have to be constructed at an alternate site ---- at a cost of hundreds of millions of dollars to the taxpayers of this country, ---- The failure to use the extensive human resources and experience at SRS ---- would only run up those costs. ---- Did we not **promise** the taxpayers a “peace dividend?”

1

It makes no sense to **not use** what already exists at SRS.

Secondly, because the alternate site has never **processed** plutonium, ---- a plutonium clean-up legacy doesn’t exist at that site. ---- If plutonium processing is introduced at the alternate site, ---- another legacy will be created which will require **significant** taxpayer dollars to remediate. ---- Because SRS has a history of plutonium processing, ---- we would expect incremental remediation costs to be minimal.

3

SCD50

From the taxpayers' perspective, ---- the collocation of the nation's Plutonium Disposition missions at SRS will save the taxpayers hundreds of millions ---- and possibly as much as a billion dollars. ---- Again, did we not promise the taxpayers a "peace dividend?"

But there are more than financial considerations. ---- A qualified workforce currently exists here at SRS. ---- This qualified workforce is a community of people. ---- These people have families.

Through the years, this community and the state have invested in infrastructure ---- to support these families. ---- This community and the state have invested in law enforcement and fire services ---- to protect these families. --- This community and the state have invested in hospitals, clinics, and emergency medical services ---- to provide for their health needs. ---- This community and the state have invested in elementary schools, middle schools, high schools, technical colleges, and university campuses ---- to educate the children of these families.

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And why did this community and the state choose to make these permanent investments for the workforce of SRS? ---- Because back in the 50s, this community, and the state, and SRS joined together as strategic partners. ---- And through the years, we have always viewed the well-being of the site's workforce, ----- and the well-being of the thousands-upon-thousands of their family members, ----- as our primary responsibility.

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This community and the state have always enthusiastically supported SRS and its vital national security missions. ---- And we have given SRS our consistent, unwavering support for the past five decades. ---- No one else can come close to matching that. ---- Thank you for your serious consideration --- and for the opportunity to speak here today. ---- We stand ready, willing, and able ---- to continue to support the vital missions of SRS.

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SCD50

SOUTH CAROLINA DEPARTMENT OF COMMERCE
ROBERT V. ROYALL
PAGE 1 OF 1



SOUTH CAROLINA
 DEPARTMENT OF COMMERCE

David M. Beasley
 Governor

August 10, 1998

Robert V. Royall
 Secretary

Ms. Laura Holgate
 United States Department of Energy
 Office of Fissile Materials Disposition
 MD-4 Forestall Building
 1000 Independence Avenue, SW
 Washington, DC 20580

Dear Ms. Holgate:

Thank you for this opportunity to comment on the Proposed Environmental Impact Statement for the Disposition of Surplus Weapons Grade Plutonium. I concur with Governor Beasley's endorsement of the Savannah River Site as the best site for the entire Surplus Plutonium Mission.

The workforce of the State and of the Savannah River Site Region has a demonstrated history of supporting the missions of the United States Department of Energy. As a result, over its more than forty year history, the SRS has become an important factor in both State and Regional economies.

Your Department should be proud of the workforce which you have assembled at SRS. These workers and their skills have been an enrichment for the region. With the assistance of your Department's Worker and Community Transition Program we have been successful in attracting private sector firms to the Region to re-employ many of the skills displaced by downsizing. The Plutonium Mission, coupled with these private sector initiatives, will help maintain this workforce and the body of science which it represents, an objective which I believe will be in the best interest of both the Nation and South Carolina.

Sincerely,

Robert V. Royall

mh

Post Office Box 927 • Columbia, South Carolina 29202
 (803) 737-0400 • Fax (803) 737-0418

SCD08

SCD08-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

This is Bret Bersie. I'm the Director of the South Carolina Progressive Network. It's a coalition of nearly 50 organizations across the state with a membership base of 63,000 people. We voted on Saturday, September 12, to request that the Department of Energy have additional public hearings in South Carolina on the plutonium disposition plan. The only hearing that's been held is one that held in North Augusta and the attendees at that hearing were 98 percent paid employees of the Savannah River Site who were given a paid, paid leave to attend the meeting and, and promote the option. There are many citizens in South Carolina that feel that they haven't been heard. Many citizens don't even know the questions going on and so we would, would request the additional hearings in at least Columbia, which is the capital of the state, and be given a month's notice before the hearing. My address is P.O. Box 8325, Columbia, South Carolina 29202. My phone number is (803) 808-3384.

1

I have an additional comment and that is that I recall when the Allied General Nuclear Services Plant was built at this, outside the Savannah River Plant to reprocess plutonium to make mixed oxide fuels twenty years ago. Jimmy Carter, when he was President, issued an executive order saying that mixed oxide fuels could not be used. Did that executive order wear out or has it been supplanted by something that I'm not aware of? See if you can answer that question for me. Thank you very much.

2

PD067

PD067-1

General SPD EIS and NEPA Process

DOE acknowledges the commentor's concerns regarding the public hearing. DOE employees and contractors at SRS were neither granted leave nor ordered to present their views at the North Augusta hearing; they attended in an official capacity or took personal leave to attend. DOE believes that the hearing was objective and open; all attendees were given an opportunity to provide comments orally or in writing. It was simply not feasible to hold public hearings in every location, including the locations suggested by the commentor.

To provide for public comment on the SPD Draft EIS, DOE conducted public hearings near the potentially affected DOE sites, and thus with the most directly affected populations. This decision did not preclude relevant comment by State and local government, tribes, individuals, and organizations. Approximately 1,700 copies of the SPD Draft EIS were mailed, and an NOA letter was mailed to an additional 5,500 members of the public. Several means were available for providing comments: public hearings, mail, a toll-free telephone and fax line, and the MD Web site. Equal consideration was given to all comments, regardless of how they were submitted.

PD067-2

Nonproliferation

The Allied General Nuclear Services Plant was constructed to recover plutonium and uranium from spent nuclear fuel. President Carter issued an Executive Order terminating the plant's reprocessing capability before construction was completed. Under the MOX approach, the use of U.S. surplus plutonium in existing domestic, commercial reactors does not involve reprocessing (reprocessing is a chemical separation of uranium, transuranic elements [including plutonium], and fission products from spent reactor fuel and the reuse of the plutonium and uranium to produce new fresh fuel). Consistent with the U.S. policy of discouraging the civilian use of plutonium, a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation would be a once-through cycle with no reprocessing.

Comments by T. Scott Beck
Member of the House of Representatives
State of South Carolina

DOE Draft EIS for Surplus Plutonium Disposition

August 13, 1998

SCD13

Thank you for providing me this chance to address an issue ... that's so important ... not only to our community ... but to our nation as well.

Let me also take this opportunity ... to formally welcome you ... to the 83rd legislative district of South Carolina.

We're a district comprised of many current ... and former site workers ... who have a keen understanding of the unique technical challenges ... involved in plutonium processing.

As one of those former employees myself ... who's worked at the site's primary plutonium processing facility ... I know this **isn't** work ... that can be done ... by **just** anyone ... or **just** anywhere.

Plutonium processing is highly specialized ... with unique contamination protection ... safety ... material accountability ... and waste management requirements ...

... much of it an infrastructure ... that already exists at Savannah River ...

... much of it requiring skills ... that already exist there as well.

It's a capability ... that you'd have to totally re-created somewhere else.

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SCD13

SCD13-1

Alternatives

DOE acknowledges the Representative's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

Beck -- Page 2

On top of that ... SRS is already listed as the preferred site for two thirds of the plutonium disposition mission.

Doesn't it make sense ... to locate all three plutonium plants together ... to take advantage of the cost benefits ... that are sure to be realized with shared facilities and staff?

Furthermore ... because plutonium processing carries with it ... extensive ... **and** expensive ... clean-up obligations ... why even consider placing it at a site - unlike Savannah River - where those obligations don't already exist?

In recent years ... I've been a student of the vagaries imperfections of the NEPA process.

I know ... that all too often ... final conclusions can be ... just about anything you want them to be.

In this case ... I hope you'll at least be consistent ...

And consider what I ... and many others here have said ... in light of your own findings ... in a similar EIS in 1996 ... for Stockpile Stewardship & Management.

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SCD13

Beck -- Page 3

In it ... you state:

“Plutonium would not be introduced into a site that does not currently have a plutonium infrastructure because of the high cost of new plutonium facilities and the complexity of introducing plutonium into sites without current plutonium capabilities.”

Many of my constituents ... and their co-workers at SRS ... have safely and responsibly ... met the plutonium processing needs of this nation ... for most of the last half of this century.

They’ve demonstrated their worthiness to take that mission ... into the next century as well.

Give them that chance.

Thank you.

1

SCD13

I am Rudy Mason, South Carolina State Representative. ^{House District} I am here representing the Aiken County, South Carolina Delegation. This group of legislators has members from both parties and we may disagree on various issues; however, we are in unanimous agreement in our support of the Pit Disassembly and Conversion mission at the Savannah River Site.

As legislators we are aware that citizens expect their government to make wise fiscal decisions. Citizens demand that we evaluate the alternatives and then choose the one option that serves their best interest while spending the least amount of taxpayers dollars. This EIS hearing is about finding the best location for this critical plutonium disposition mission.

The Savannah River Site has a proven history of handling plutonium. In fact, DOE has previously acknowledged SRS's expertise; therefore, we must consider the financial aspect of this decision. DOE also has acknowledged that the intergration of the plutonium missions at Savannah River Site will save taxpayers millions. Therefore, the decision that should come out these hearings is that the entire Plutonium Disposition, including Pit Disassembly and Conversion, should take place at SRS.

Once again, I would like to reintroduce into the record the resolution passed by our delegation in support of Plutonium Disposition Missions at SRS.

1

SCD97

SCD97-1

Alternatives

DOE acknowledges the Representative's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

**SOUTH CAROLINA HOUSE OF REPRESENTATIVES
HONORABLE RUDY MASON
PAGE 2 OF 2**

A RESOLUTION

Whereas, the handling and disposition of excess weapons plutonium is of grave concern to the national security of the United States; and

Whereas, plutonium disposition represents one of the most certain future missions of the Department of Energy for the next twenty to thirty years; and

Whereas, the Department of Energy has decided to pursue a dual path for plutonium disposition and has named the Savannah River Site as a candidate site for both options; and

Whereas, the Department of Energy's Surplus Fissile Materials Disposition Program will result in the production of qualified disposal forms and the eventual removal of these materials from the State of South Carolina; and

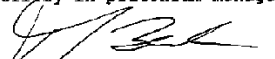
Whereas, the Savannah River Site has produced approximately forty percent of all United States weapons grade plutonium over the last forty-five years and has safely handled plutonium in glovebox processing equipment with no adverse impact on workers, the public, or the environment; and

Whereas, the Department of Energy in its Record of Decision recognizes the Savannah River Site as "a plutonium competent site with the most modern, state-of-the-art storage and processing facilities...with the only remaining large-scale chemical separation and processing capability in the DOE complex"; and

Whereas, the regional community in the Central Savannah River Area (CSRA) of South Carolina and Georgia strongly supports continued plutonium missions for the Department of Energy's Savannah River Site. Now, therefore,


Be it resolved that the Aiken County, South Carolina Legislative Delegation strongly endorses major plutonium missions for the Savannah River Site and urges the Department of Energy to designate the Savannah River Site as its lead facility in plutonium management and disposition.

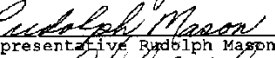
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Representative Thomas Beck

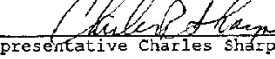

Representative Roland Smith


Representative William Clyburn


Senator Thomas Moore


Representative Rudolph Mason


Senator W. Greg Ryberg


Representative Charles Sharpe

SCD97

Laura HOGATE

DOE EIS HEARING

AFTERNOON
GOOD ~~MORNING~~ AND WELCOME TO SOUTH CAROLINA. I AM BRAD HUTTO, STATE SENATOR, REPRESENTING TWO OF THE HOST COUNTIES FOR THE SAVANNAH RIVER SITE - BARNWELL AND ALLENDALE COUNTIES. I ALSO REPRESENT ORANGEBURG AND HAMPTON COUNTIES. MANY OF MY CONSTITUENTS FROM ALL FOUR COUNTIES WORK AT THE SITE. *MANY DRIVE AN HOUR EACH DAY EACH WAY.*

SRS Family Georgia and N. Carolina

BAMBERG

WE ARE PROUD OF OUR LONGSTANDING RELATIONSHIP WITH THE DEPARTMENT OF ENERGY. WE ARE PLEASED TO HAVE BEEN DESIGNATED AS THE PREFERRED SITE FOR

MOX FUEL FABRICATION AND *FOR*
~~WASTE MANAGEMENT AND~~ IMMOBILIZATION

AND WE ACTIVELY SEEK THE DESIGNATION AS THE PREFERRED SITE FOR

SCD42-1

Alternatives

DOE acknowledges the Senator's support for siting the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

PIT DISASSEMBLY AND CONVERSION.

THE WORKERS AND COMMUNITIES OF THE
CENTRAL SAVANNAH RIVER AREA ARE READY AND ABLE TO
ACCEPT THE CHALLENGES AND RESPONSIBILITIES
THAT WOULD ACCOMPANY ~~THE CONVERSION OF THE~~
CONSOLIDATION OF
A FULL PLUTONIUM DISPOSITION MISSION. AT SRS.

AS YOU SEEK TO MAKE A DECISION ABOUT THE
LOCATION OF THE PIT DISASSEMBLY AND
CONVERSION ~~MISSION~~ ^{FACILITY}, WE KNOW THAT YOU WILL
RECOGNIZE THAT THE SAVANNAH RIVER SITE

HAS ~~THE~~ ^{MUCH} OF THE NEEDED SUPPORT
INFRASTRUCTURE FOR SUCH A MISSION IN PLACE

WE HAVE AN EXPERIENCED AND DEDICATED
WORKFORCE WHO HAVE THE EDUCATION, TRAINING
AND ABILITY TO ~~CARRY OUT THE~~ PIT DISASSEMBLY
AND CONVERSION ^{MAN A} FACILITY.

1

SCD42

WE BELIEVE THAT THE LOCATION OF THE PIT
DISASSEMBLY AND CONVERSION PROJECT HERE
WILL GENERATE VAST SAVINGS TO THE COUNTRY.

SRS HAS
~~WE HAVE~~ THE TRADITION AND TRAINING
~~NECESSARY~~ TO SAFELY AND EFFICIENTLY HANDLE
~~OUR TRACK RECORD OF SAFETY IS 22 YEARS~~
THIS NEW MISSION. ~~PROTECT THE~~ PUBLIC, ENVIRONMENT
AND WORKERS.

1

SOUTH CAROLINA
OUR ^ CONGRESSIONAL DELEGATION HAS
PROVIDED US WITH STEADFAST AND UNWAVERING
SUPPORT IN WASHINGTON OVER THE MANY YEARS
OF OPERATIONS ~~HERE~~ AT THE SAVANNAH RIVER
SITE. THEIR CONTINUED UNYIELDING COMMITMENT
TO THE PEOPLE AND COMMUNITIES OF THIS AREA
SHOULD FURTHER DEMONSTRATE TO YOU THE
WARM RECEPTION AND HOSPITALITY THAT YOU CAN
EXPECT FOR ^{THE SITING OF} NEW MISSIONS HERE AND THE FULL
COOPERATION THAT YOU WILL RECEIVE IN MAKING

SCD42

THE DECISION TO CONSOLIDATE ALL PLUTONIUM
DISPOSITION MISSIONS AT SRS.

FURTHERMORE, THE CITIZENS AND
COMMUNITIES THAT I REPRESENT ARE AS
COMMITTED AS WE ALWAYS HAVE BEEN TO DOING
OUR SHARE TO PROVIDE FOR OUR NATIONAL
SECURITY. WE ARE PROUD OF THE ROLE THAT
SAVANNAH RIVER SITE HAS PLAYED OVER THE
LAST HALF CENTURY ~~YEARS~~ IN THE DEFENSE OF OUR NATION AND

WE ARE READY TO CONTINUE THIS TRADITION OF
SERVICE TO OUR COUNTRY. *AS WE APPROACH*
THE NEW MILLENNIUM.

1

SCD42

SOUTH CAROLINA SENATE
HONORABLE W. GREG RYBERG
PAGE 1 OF 2

W. GREG RYBERG
 SENATOR, AREA AND DISTRICT COMMITTEE
 SENATORIAL DISTRICT 14

HOME ADDRESS:
 P. O. BOX 1077
 Aiken, SC 29801
 (803) 884-6626
 FAX: (803) 884-4020



COMMITTEES:
 CONVECTIONS AND PENALTY,
 LABOR, COMMERCE AND INDUSTRY,
 GENERAL
 TRANSPORTATION
 STATE HOUSE COMMITTEE

SENATE ADDRESS:
 P. O. BOX 167
 CRENSHAW SENATE OFFICE BLDG.
 COLUMBIA, SC 29801
 (803) 352-6714
 FAX: (803) 238-9230

June 19, 1997

Mr. Howard Canter
 U.S. Department of Energy
 Office of Fissile Materials Disposition
 MD-4 Forrestal Building
 1000 Independence Avenue, SW
 Washington, D.C. 20588

Dear Mr. Canter:

I appreciate the opportunity to express my support of the Savannah River Site (SRS) as the best and singular choice for the Department of Energy's Plutonium Disposition Mission. According to my understanding, currently, there are two options being considered for the handling and disposition of excess plutonium - mixed-oxide (MOX) fuel production and vitrification. Furthermore, I have been informed that SRS is the only location under consideration which has the capability to contribute in both methods of disposition.

Consolidation of all of the contemplated plutonium operations at one site appears to be not only the most cost-effective approach but also to be in the best interest of our Country. DOE's adopted strategy to consolidate operations as the complex was downsized is a good one. SRS currently has the infrastructure, layout, and specialized skills necessary to effectuate consolidation of and a smooth, cost-effective transition to DOE's new mission. It is also the only location that would not require extensive capital outlay to implement DOE's plans. Additionally, SRS's existing operation features numerous facilities which would enhance and complement these new missions.

SRS is the only site with the level of current expertise, experience and proven ability to safely handle these new missions. It is the only large-scale operating plutonium processing facility in the country. Its facilities have been extensively renovated and modernized and stand ready for duty. The proven people assets needed for plutonium missions already exist at SRS and need not be moved or developed elsewhere. Having lived within the community for 20 years, I would unequivocally say that the SRS employees are second to none. Through the ups and downs of the SRS employment cycle, the core competency of the Site has been integral to its success and to the vast community support. Bricks and mortar, canisters and glass logs, are only a portion of the SRS success equation. Our people and our community involvement are, I believe, the key to DOE's success. It is a fact that employees perform to their highest potential when they enjoy the support of their community.

SCD103

SCD103-1

Alternatives

DOE acknowledges the Senator's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

SOUTH CAROLINA SENATE
HONORABLE W. GREG RYBERG
PAGE 2 OF 2

June 19, 1997


Mr. Howard Canter
Page 2

Aiken County and its surrounding communities wholeheartedly support SRS in its bid for new compatible missions and we believe we offer the lowest cost alternative to DOE while protecting the environment. The community's commitment to SRS has been actively demonstrated since it was first built in the early 1950's. I believe the level, breadth, and depth of support for this facility continues to be unprecedented. I regard this support as unparalleled by any other DOE facility within the complex.

In spite of the tremendous cut backs at SRS over the past four years, our community has stood steadfast behind the site and actively assisted SRS in its pursuit of new missions. This site, and its countless contractors and economic off shoots, is not only the largest employer in our area, it is also an integral part of our community through the involvement of its operator, Westinghouse, in charitable and civic organizations and endeavors. Their commitment to getting involved and to giving back to our community has resulted in increased support for the site.

With concern for fiscal responsibility and accountability at all levels of government being the national outcry, along with competent people and community support being integral to the success of the Plutonium Mission, I steadfastly feel that SRS is the most logical choice for DOE's mission for Plutonium Disposition.

Sincerely,



W. Greg Ryberg
District 24

SCD103

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SOUTH CAROLINA SENATE
HONORABLE W. GREG RYBERG
PAGE 1 OF 2

W. GREG RYBERG
 SENATOR, Aiken and Lexington Counties
 SENATORIAL DISTRICT 54



COMMITTEES:
 CORRECTIONS AND PENITENTIARY
 LABOR, COMMERCE AND INDUSTRY
 GENERAL
 TRANSPORTATION
 STATE HOUSE COMMITTEE

SENATE ADDRESS:
 P. O. BOX 142
 GREENVILLE SENATE OFFICE BLDG.
 COLUMBIA, SC 29202
 (803) 212-6148
 FAX: (803) 212-6290

August 13, 1998

Mr. Howard Canter
 U.S. Department of Energy
 Office of Fissile Materials Disposition
 MD-4 Forrestal Building
 1000 Independence Avenue, SW
 Washington, D.C. 20588

Dear Mr. Canter:

I appreciate the opportunity to express my support of the Savannah River Site (SRS) as the best and singular choice for the Department of Energy's Surplus Plutonium Disposition Mission. As former Secretary Pena stated and your Draft Environmental Impact Statement correctly concludes, Savannah River is the preferred alternative for the MOX fuel fabrication and immobilization portions of this important non-proliferation mission because of its staff expertise, plutonium infrastructure and exemplary safety performance. These same considerations hold true for the Pit Disassembly and Conversion Facility, and your decision should be to similarly assign this portion of the Surplus Plutonium Mission to Savannah River.

Consolidation of all of the contemplated plutonium operations at one site appears to be not only the most cost-effective approach but also to be in the best interest of our Country. DOE's adopted strategy to consolidate operations as the complex was downsized is a good one. SRS currently has the infrastructure, layout, and specialized skills necessary to effectuate consolidation of and a smooth, cost-effective transition to DOE's new mission. It is also the only location that would not require extensive capital outlay to implement DOE's plans. Additionally, SRS's existing operation features numerous facilities which would enhance and complement these new missions.

SRS is the only site with the level of current expertise, experience and proven ability to safely handle these new missions. It is the only large-scale operating plutonium processing facility in the country. Its facilities have been extensively renovated and modernized and stand ready for duty. The proven people assets needed for plutonium missions already exist at SRS and need not be moved or developed elsewhere. Having lived within the community for 21 years, I would unequivocally say that the SRS employees are second to none. Through the ups and downs of the SRS employment cycle, the core competency of the Site has been integral to its success and to the vast community support. Bricks and mortar, canisters and glass logs, are only a portion of the SRS success equation. Our people and our community involvement are, I believe, the key to DOE's success. It is a fact that employees perform to their highest potential when they enjoy the support of their community.

SCD43

SCD43-1

Alternatives

DOE acknowledges the Senator's support for siting the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

SOUTH CAROLINA SENATE
HONORABLE W. GREG RYBERG
PAGE 2 OF 2

August 13, 1998

Mr. Howard Canter
Page 2

Aiken County and its surrounding communities wholeheartedly support SRS in its bid for new compatible missions and we believe we offer the lowest cost alternative to DOE while protecting the environment. The community's commitment to SRS has been actively demonstrated since it was first built in the early 1950's. I believe the level, breadth, and depth of support for this facility continues to be unprecedented. I regard this support as unparalleled by any other DOE facility within the complex.

In spite of the tremendous cut backs at SRS over the past few years, our community has stood steadfast behind the site and actively assisted SRS in its pursuit of new missions. This site, and its countless contractors and economic off shoots, is not only the largest employer in our area, it is also an integral part of our community through the involvement of its operator, Westinghouse, in charitable and civic organizations and endeavors. Their commitment to getting involved and to giving back to our community has resulted in increased support for the site.

With concern for fiscal responsibility and accountability at all levels of government being the national outcry, along with competent people and community support being integral to the success of the Plutonium Mission, I steadfastly feel that SRS is the most logical choice for the Pit Disassembly and Conversion Facility.

Sincerely,



W. Greg Ryberg
District 24

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SCD43

SCD80-1

Alternatives

DOE acknowledges the commentors' support for tritium production and surplus plutonium disposition at SRS. Tritium production is beyond the scope of this SPD EIS, but is analyzed in the *Final Programmatic Environmental Impact Statement for Tritium Supply and Recycling* (DOE/EIS-0161, October 1995). As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

ERDA
EDUCATION, RESEARCH AND DEVELOPMENT
ASSOCIATION OF GEORGIA UNIVERSITIES
900 Atlantic Drive
Atlanta, Georgia 30332-0425
(404)-894-3800 FAX (404)-894-0325

SCUREF
SOUTH CAROLINA UNIVERSITIES
RESEARCH AND EDUCATION FOUNDATION
Strom Thurmond Institute
Clemson, South Carolina 29634-5701
(854)-656-1964 FAX (854)-656-0896

June 24, 1987

The Honorable Newt Gingrich
2428 Rayburn House Office Building
United States House of Representatives
Washington, DC 20515

Dear Mr. Speaker:

Since 1992, regional universities in South Carolina and Georgia have partnered with Westinghouse Savannah River Company and the Department of Energy at the Savannah River Site to expand the technical expertise and resources of the site to accomplish missions to solve problems, train employees and educate the public. We want these efforts to continue and to expand in the future. Your active support is needed now as new missions for SRS are being considered.

The two new mission areas are:

- Tritium Production for National Defense
- Surplus Nuclear Materials Disposition for National and International Security

SRS has existing experience and expertise as well as the required infrastructure to execute both of these missions in a safe and environmentally acceptable manner. These projects complement the successful environmental cleanup and remediation program at the site to which we are already contributing.

The Savannah River Site has been previously selected to be the site for future production of Tritium for our national defense program if required. Our institutions can assist by contributing to the basic science and technology research that would be needed to design and operate such a facility. Our institutions will also provide educational opportunities to create a cadre of operational and design engineers, scientists, environmental specialists and safety experts.

The material disposition mission would process and ultimately dispose of excess plutonium and highly enriched uranium, significantly reducing the risk of proliferation. Our universities fully support and are ready to partner with SRS to achieve this mission. Your support is essential. The leading research universities of South Carolina and Georgia are solidly behind the new missions, without which this region of Georgia and South Carolina will continue losing

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ERDA Member Institutions: Clark Atlanta University, Emory University, Georgia Institute of Technology, Georgia State University, Medical College of Georgia, University of Georgia
SCUREF Member Institutions: Clemson University, Medical University of South Carolina, South Carolina State University, University of South Carolina

SCD80

SOUTH CAROLINA UNIVERSITIES RESEARCH AND EDUCATION FOUNDATION
CONSTANTINE CURRIS ET AL.

PAGE 2 OF 2

Page 2

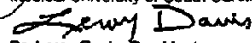
jobs and expertise at SRS. It is critical that we stabilize funding and employment at the SRS through Congressional support for the new missions.

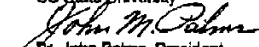
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Sincerely,
SCUREF


Dr. Constantine Curris, President
Clemson University



Dr. James Edwards, President
Medical University of South Carolina



Dr. Leroy Davis, President
SC State University



Dr. John Palms, President
University of South Carolina

ERDA


Dr. Thomas Cole, President
Clark Atlanta University


Dr. William Chace, President
Emory University


Dr. Wayne Clough, President
Georgia Institute of Technology


Dr. Carl Patton, President
Georgia State University


Dr. Francis Fedesco, President
Medical College of Georgia


Dr. William F. Prokasy, Acting President
University of Georgia

Distribution List:

The Honorable Newt Gingrich
The Honorable Paul Coverdell
The Honorable Max Cleland
The Honorable Jack Kligston
The Honorable Sanford Bishop
The Honorable Michael "Mac" Collins
The Honorable Cynthia McKinney
The Honorable John Lewis
The Honorable Bob Barr
The Honorable Saxby Chambliss
The Honorable Nathan Deal
The Honorable Charles Norwood
The Honorable John Linder

The Honorable Strom Thurmond
The Honorable Ernest Hollings
The Honorable Mark Sanford
The Honorable Floyd Spence
The Honorable Lindsey Graham
The Honorable Bob Inglis
The Honorable John Spratt
The Honorable James Clyburn

The Honorable David Beasley
The Honorable Zell Miller
Mr. Federico Pena

ERDA Member Institutions: Clark Atlanta University; Emory University; Georgia Institute of Technology;
Georgia State University; Medical College of Georgia; University of Georgia
SCUREF Member Institutions: Clemson University; Medical University of South Carolina;
South Carolina State University; University of South Carolina

SCD80

3-677

SOUTHEAST ENVIRONMENTAL MANAGEMENT ASSOCIATION
CARL A. MAZZOLA
PAGE 1 OF 2



**SOUTHEAST ENVIRONMENTAL
MANAGEMENT ASSOCIATION**

P.O. Box 5446 • Aiken, South Carolina • 29804
Phone and Fax (803) 648-9545

September 9, 1998
SEMA-98-009

US Department of Energy
Office of Fissile Materials Disposition
P. O. Box 23786
Washington, DC 20026-3786

Gentlemen:

The Southeast Environmental Management Association (SEMA) is a non-profit organization of environmental management professionals. We were formed in 1994 for the purpose of providing a forum for the exchange of technical and programmatic information pertaining to environmental restoration, waste management and minimization, and environmental compliance issues, as they pertain to public and private sector enterprises in the southeast United States.

SEMA offers public comment in response to the Surplus Plutonium Disposition (SPD) Draft Environmental Impact Statement (DEIS):

Having reviewed the alternatives presented in the SPD DEIS for the Pit Disassembly and Conversion Facility, the Mixed Oxide (MOX) Fuel Facility, and the Plutonium Immobilization Facility (PIF), it is apparent that the preferred site for each of these facilities should be the Savannah River Site (SRS) in Aiken, South Carolina. This preference is based on many compelling arguments presented in the EIS itself, such as:

- SRS experience for almost 50 years in the safe handling, safe processing, and secure management of a full spectrum of plutonium products,
- A highly developed and well-maintained infrastructure especially suited for each of these facilities,
- Synergistic advantages to the co-location of the Pit Disassembly and Conversion Facility with the PIF and MOX facilities next to the Actinide Packaging and Storage Facility,
- The large size of the SRS reservation (300 square miles) provides an additional buffer unavailable at other candidate sites (these facilities will be more than 6 miles from the nearest offsite individual),
- A highly trained and effective workforce with many years of experience with plutonium materials and processes inclusive of the only DOE Plutonium Training Facility, and
- A competitive cost advantage estimated as high as \$120 million which would demonstrate the DOE commitment to be responsible stewards of taxpayer dollars.

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MD167

MD167-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS and appreciates the community support. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

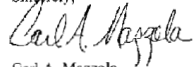
**SOUTHEAST ENVIRONMENTAL MANAGEMENT ASSOCIATION
CARL A. MAZZOLA
PAGE 2 OF 2**

US Department of Energy - Office of Fissile Materials Disposition
September 9, 1998
Page 2

Notwithstanding the aforementioned advantages, the greatest argument that can be made is the unwavering commitment of the CSRA people, governments, industries, and organizations, like SEMA, in support of existing and new DOE missions. This commitment should not be taken lightly, for it is based on years of working closely with DOE-SR in shouldering the heavy responsibility of safe, environmentally benign, and strategically important missions of providing nuclear materials for our nation's defense and in remediating the legacy of the nuclear weapons complex.

Based on the decades of experience that the CSRA has had with SRS, we have full confidence that these new missions will be carried out safely and in an environmentally sound manner.

Sincerely,



Carl A. Mazzola
SEMA President, 1998

cc: The Honorable Lindsey Graham, US House of Representatives
The Honorable Greg Ryberg, South Carolina State Senate
Mr. Greg Rudy, Manager, US Department of Energy-Savannah River Site
Mr. Ambrose Schwallie, President, Westinghouse Savannah River Company
Mr. Mike Butler, Citizens for Nuclear Technology Awareness
Citizens Advisory Board, Savannah River Site

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MD167

SRS CITIZENS ADVISORY BOARD
PAGE 1 OF 1

Savannah River Site
CITIZENS ADVISORY BOARD

Recommendation #1
 July 28, 1998

**Recommendation on the
 Draft Surplus Plutonium Disposition
 Environmental Impact Statement**

Background

The Draft Surplus Plutonium Disposition (SPD) Environmental Impact Statement (EIS) identifies reasonable alternatives and potential environmental impacts for the proposed siting, construction, and operation of three facilities for plutonium disposition. After the Storage and Disposition of Weapons-Usable Fissile Materials programmatic EIS was completed, former Secretary of Energy Hazel O'Leary announced in January 1997 that DOE would pursue a dual track for plutonium disposition—immobilization and mixed oxide. The draft SPD EIS tiers from the Storage and Disposition programmatic EIS.

The alternatives in the draft SPD EIS include three disposition facilities designed to collectively disposition up to 50 metric tons of surplus plutonium. A facility to disassemble and convert pits into plutonium oxide is proposed with SRS and Pantex designated as equally preferred sites. DOE also has announced that SRS is the preferred site for both the immobilization and MOX fuel fabrication facilities. The immobilization facility includes a collocated capability to convert non-pit plutonium materials into a form suitable for immobilization. The MOX facility will fabricate plutonium oxide into MOX fuel. The fuel would be used in existing commercial reactors in the United States.

Recommendation

The SRS CAB has reviewed the Draft SPD EIS in which DOE states SRS is the preferred location for immobilization and MOX and one of two locations for pit disassembly operations. Based on this information just released, the SRS CAB initially concurs with the DOE statement that SRS is a reasonable site for some or all of the proposed missions for the following reasons:

1. We support site integration activities when the selected sites are best able to perform those activities that are part of their core function.
2. Incremental risks presented in the draft summary appear to be minimal and acceptable.

Concerning pit disassembly activities, the SRS CAB asks DOE to consider that, should Pantex be chosen to conduct the pit conversion mission, this decision would create a new plutonium processing site within a system endeavoring to consolidate operations for cost effectiveness, but most importantly, would increase the amount of environmental cleanup that ultimately will be required. We also acknowledge that the missions would add economic benefit to the local community.

SRS CAB Recommendation #1
 Adopted July 28, 1998

FD206

FD206-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses (including risk analyses), technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

FD206-2

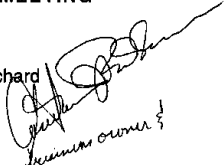
Alternatives

The existing infrastructure at Pantex is described in Section 3.4.11, and the impact of the proposed surplus plutonium disposition facilities on the infrastructure at Pantex is discussed in Section 4.26.3.6. This SPD EIS analyzes impacts to the environment due to construction and normal operation of the pit conversion facility. This facility would be located in a new building at either Pantex or SRS. The new building should have the same level of contamination regardless of the site and require the same amount of D&D work.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

COMMENTS FOR THE DOE PLUTONIUM DISPOSITION PUBLIC MEETING

Prepared by Dr. Constance J. Pritchard
President, The Pritchard Group
North Augusta, SC 29861
803-279-4175 (v)



My interest in speaking today is as a member of the North Augusta community. I am a small business owner who works with area businesses in a variety of training and consultative ways. I also serve on a number of Boards of Directors including Chambers of Commerce and Workforce Development. These roles, professionally and personally, have given me a chance to be knowledgeable about the Savannah River Site and its mission.

I speak for myself today, and I think that my comments also reflect those of a number of others in the community. As are many others here today, we are well acquainted with the quality, dedication, and professionalism of workers at the Savannah River Site. These individuals live near us, work in the community beside us, attend church with us, and share in the raising families here in the CSRA. We are proud of the safety record that SRS has, and support its ability to remain a productive facility.

We view the Savannah River Site as a provider with a long record of safety and efficiency in the production and disposal of nuclear materials and products. The workers at SRS have repeatedly demonstrated their competency and commitment to the safe production and disposal of nuclear products. Not only ^{are} the necessary levels of expertise available at SRS for plutonium disposition, the existing infrastructure will be a tax savings for us. As an employer and a tax payer, that consideration is a primarily one for me.

Not only does SRS have the expertise of its employees, its leadership - world class partnerships -- businesses that are best in class -- have formed ~~the~~ unite global technology. They bring the management, nuclear experience and knowledge, and technology to effect safe plutonium disposition. This partnership is working well, is cost effective, and serves to illustrate SRS's ability to adapt ~~and seek~~ to learn and improve.

I offer my support that the Savannah River Site be chosen for the DOE plutonium disposition mission.

email: fulvalue@aol.com

SCD21

SCD21-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

TRI-COUNTY ECONOMIC DEVELOPMENT ALLIANCE
J. CALVIN MELTON
PAGE 1 OF 1

RESOLUTION

WHEREAS, THE TRI COUNTY ECONOMIC DEVELOPMENT ALLIANCE IS A LEGALLY RECOGNIZED REPRESENTATIVE OF THE MEMBER COUNTIES OF ALLENDALE, BAMBERG, AND BARNWELL IN SOUTH CAROLINA; AND

WHEREAS, THE DUTY OF THE ALLIANCE IS TO ASSIST IN THE CREATION OF ECONOMIC DEVELOPMENT OPPORTUNITIES WITHIN THE MEMBER COUNTIES; AND

WHEREAS, THE ALLIANCE WAS CREATED TO WORK ON BEHALF OF THE MEMBER COUNTIES IN A UNIFIED AND MUTUALLY BENEFICIAL MANNER; AND

WHEREAS, ANY JOB CREATION AND CAPITAL INVESTMENT IN A HOST COUNTY ALSO BENEFITS THE OTHER MEMBER COUNTIES; AND

WHEREAS, SIXTY SIX PER CENT OF THE SAVANNAH RIVER SITE IS LOCATED WITHIN THE BORDERS OF TWO OF THE MEMBER COUNTIES AND MORE THAN 1400 EMPLOYEES OF THE SITE ARE RESIDENTS OF THE MEMBER COUNTIES; AND

WHEREAS, THE MEMBER COUNTIES BELIEVE ANY ASSISTANCE DERIVED FROM THE SAVANNAH RIVER SITE DURING THE DOWNSIZING OF THE FACILITY TO ANY MEMBER COUNTY OF THE ALLIANCE WOULD BE BENEFICIAL TO THE REGION; AND

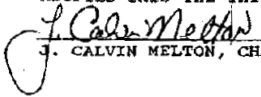
WHEREAS, NO SPECIFIC CONGRESSIONAL MANDATE LIMITS THE DEPARTMENT OF ENERGY'S ASSISTANCE TO THE EFFECTED AREA; AND

WHEREAS, THE COMMUNITY REUSE ORGANIZATION (SRRDI) CAN RECOMMEND TO THE DEPARTMENT OF ENERGY MODIFICATIONS WITHIN THE CHARTER OF THE SRRDI ORGANIZATION; AND

WHEREAS, THE THREE REGIONAL ECONOMIC DEVELOPMENT ORGANIZATIONS, THE AIKEN-EDGEFIELD PARTNERSHIP, THE METRO-AUGUSTA CHAMBER OF COMMERCE, AND THE TRI-COUNTY ALLIANCE, REPRESENT ADDITIONAL ADVERSELY EFFECTED COUNTIES WITH LARGE POPULATIONS OF SAVANNAH RIVER SITE EMPLOYEES BEYOND THOSE RECOGNIZED BY THE DEPARTMENT OF ENERGY UNDER THE CURRENT (CRO) STRUCTURE.

NOW, THEREFORE BE IT RESOLVED THAT THE BOARD OF DIRECTORS OF THE TRI-COUNTY ALLIANCE DOES HEREBY SUPPORT AND RECOMMEND THE ADDITION OF BAMBERG AND EDGEFIELD COUNTIES IN SOUTH CAROLINA, AND BURKE COUNTY IN GEORGIA TO THE SRRDI SERVICE REGION.

ADOPTED THIS THE THIRTIETH DAY OF JANUARY, 1997.


J. CALVIN MELTON, CHAIRMAN

SCD100

SCD100-1

Other

DOE acknowledges the resolution that Bamberg and Edgefield Counties in South Carolina and Burke County in Georgia be included in the SRRDI service region.

MR. MODERATOR, I ALSO WANT TO EXPRESS TO YOU AND THE DEPARTMENT OF ENERGY, OUR DESIRE TO HAVE THE PLUTONIUM DISPOSITION MISSION LOCATED AT THE SAVANNAH RIVER SITE.

I AM CALVIN MELTON, AND I AM CHAIRMAN OF THE TRI-COUNTY ECONOMIC DEVELOPMENT ALLIANCE, REPRESENTING ALLENDALE,

BAMBERG, AND BARNWELL COUNTIES. *and Vice Chairman of SRDZ Board - Representing three Counties in SC & 2 Counties in Georgia.*

AS YOU KNOW, OUR COMMUNITIES HAVE ALWAYS BEEN A GREAT SUPPORTER OF THE DEPARTMENT'S MISSIONS AND WE HAVE ATTENDED THESE PUBLIC HEARINGS NUMEROUS TIMES ON OTHER ISSUES TO VOICE OUR SUPPORT.

THIS ONE SEEMS TO BE A LITTLE DIFFERENT, IN THE FACT THAT THIS SHOULD BE A FAIRLY SIMPLE DECISION.

THE PREVIOUS SECRETARY HAS ALREADY ANNOUNCED THE DEPARTMENT'S DESIRE TO HAVE THE SAVANNAH RIVER SITE PERFORM THE VITRIFICATION PROCESS, AND HAS SELECTED THE SITE TO BE THE HOME OF THE MOX FUEL PROGRAM.

SCD32

SCD32-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

**TRI-COUNTY ECONOMIC DEVELOPMENT ALLIANCE
CALVIN MELTON
PAGE 2 OF 2**

THEREFORE, IT ONLY MAKES SENSE THAT THE PIT CONVERSION
PROCESS BE LOCATED AT THE SAVANNAH RIVER SITE AS WELL.

THE TRI-COUNTY ALLIANCE AND ITS MEMBERS, STRONGLY
ENCOURAGES YOU TO MAKE A DETERMINATION BASED ON THE
CAPABILITIES OF THE COMPETING SITES AND NOT ON POLITICS.

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**CONFIRM THE SAVANNAH RIVER SITE AS THE SITE OF CHOICE
FOR ALL THE PLUTONIUM MISSIONS, AND LET'S GET ON WITH
THE NATION'S BUSINESS.**

THANK YOU.

SCD32

**DOE Draft EIS for Surplus Plutonium Disposition
Thursday, August 13, 1998**

Good afternoon, I'm Keith Benson, President and Chief
Professional Officer of the United Way of the CSRA.

Thank you for providing this opportunity to comment on
an issue that's so important to our region and to our friends and
neighbors at the Savannah River Site.

Many speakers today have addressed the technical and
political aspects of the decisions you are considering in order
to ultimately make the world a safer place for all of us to live.

It sounds like they've raised some very good points. But
I'm not a technical expert or a political scientist. I am,
however, an expert on the quality of life and the quality of
people, the people you have working at SRS.

I work with them on our Board of Directors, on the
governing bodies of our various member agencies and many
community projects. I've witnessed their talents in many other

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SCD37

SCD37-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

aspects of our community. Our successes are due, in large measure, to them. And what I am certain of is that on top of their technical skills, on top of their unique capabilities, they are first and foremost quality people who take the safety and well-being of their neighbors to heart.

For 40 years, the men and women at the Savannah River Site have safely and responsibly supported, not only our nation's defense, but also the best interests and needs of their neighbors. Employees have donated millions of dollars and volunteer hours to improve quality of life. From what I've heard today, it's in the government's best interest to place the nation's plutonium disposition mission in the capable hands of our friends and neighbors at SRS. They've never disappointed me. I'm certain they won't disappoint you.

Thank you.

SCD37

3526 Boundbrook Lane
Columbia, SC 29206

September 16, 1998

U.S. Department of Energy
Office of Fissile Materials Disposition
PO Box 23786
Washington, DC 20026-3786

I wish to comment on the *Surplus Plutonium Disposition Draft Environmental Impact Statement*.

1. The Savannah River Site is not, in my opinion, a suitable site for plutonium disposal due to the unstable geologic conditions of the area.
2. Vitrification seems like a promising technology for immobilizing plutonium.
3. Any plan to reuse plutonium for energy generation (such as the MOX fuel) would seem ill-advised. Due to the highly toxic nature of plutonium, any reuse would be present needless risk to workers and the environment. If an enemy forced such exposure on our land and people, we would consider it a hostile act. I strongly oppose any plan by our own government which could increase the chance of accidental exposure to plutonium.

Respectfully submitted,
Meira (Maxine) Warshauer

FD322

FD322-1

Geology and Soils

DOE acknowledges the commentor's opposition to siting the proposed surplus plutonium disposition facilities at SRS due to unstable geologic conditions. Section 3.5.6.1 discusses the geologic conditions of the area, noting that no substantial geologic hazards or unstable soils exist at the site. Section 4.26.4.1 states that geology and soils would not appreciably affect, nor be affected by, the proposed facilities. Surplus plutonium would not be disposed of at SRS. This SPD EIS assumes, for the purposes of analysis, that Yucca Mountain, Nevada, would be the final disposal site for all immobilized plutonium and MOX spent fuel. As directed by the U.S. Congress through the NWSA, as amended, Yucca Mountain is the only candidate site currently being characterized as a potential geologic repository for HLW and spent fuel. DOE has prepared a separate EIS, *Draft Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada* (DOE/EIS-0250D, July 1999), which analyzes the environmental impacts from construction, operation and monitoring, related transportation, and eventual closure of a potential geologic repository.

FD322-2

Immobilization

DOE acknowledges commentor's support for the vitrification alternative of the immobilization approach to surplus plutonium disposition. Vitrification alternatives were evaluated in detail in the *Storage and Disposition PEIS*, which states that DOE would make a determination on the specific technology on the basis of this SPD EIS. This SPD EIS identifies the ceramic can-in-canister approach as the preferred immobilization technology. Section 4.29 provides a detailed comparison of immobilization technology impacts.

FD322-3

MOX Approach

DOE acknowledges the commentor's opposition to reusing plutonium for energy generation. The use of MOX fuel in domestic commercial reactors is not proposed in order to produce electricity. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by

NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors.

Consistent with the U.S. policy of discouraging the civilian use of plutonium, a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation would be a once-through cycle with no reprocessing. Analyses provided in Section 2.18.3 and Chapter 4 of Volume I for the alternatives that include MOX fuel fabrication and irradiation show that potential environmental impacts would likely be minor.

Donald L. Speed, Senior Engineer
 Westinghouse Savannah River Company
 Building 730-1B, Room 2162
 Aiken, SC 29808
 W: (803) 952-9353
 Fax: (803) 952-9350

facsimile transmittal

To: Office of Facility Materials Disposition Fax: (800) 820-5156
 From: Donald L. Speed Date: 09/16/98
 Re: Comments on SPD EIS Summary Pages: 1
 Urgent For Review Please Comment Please Reply Please Recycle

I attended the R13 evening meeting in North Augusta, SC. I was a little disappointed in that the meeting became a forum for public statement by an endless stream of politicians, though I assume you are accustomed to that by this time.

I primarily attended to hear technical comments, and there were few. One of the comments, however, piqued my interest because it centered on the question of purity in the MOX fuel. Before coming to SRS in 1990, I spent several years at LLNL as a systems engineer in the Atomic Vapor Laser Isotope Separation (AVLIS) program, primarily on the Pu side. Though the pilot plant for this program planned for NEEL was never built (it was a "peace dividend" after the Wall came down), the process itself was technically sound. In fact, I believe the uranium side of AVLIS is the source of USEC. My question is, has the AVLIS process been reviewed for possible use in the MOX program? After eight years at a site storing tens of millions of gallons of high level waste, I'd be encouraged to see at least one other alternative considered that doesn't involve complex, expensive-to-treat-and-dispose-of waste streams.

My other comment concerns a statement on page S-9 of the EIS Summary, which says "The construction of new facilities for the disposition of surplus US plutonium would not take place unless there is significant progress on plans for plutonium disposition in Russia." This is an admirable sentiment, and I fully concur, but what are the indicators to be used in this evaluation—parallel plant design and deployment? A signed treaty with the major states of the former USSR? Or is this simply a decision that will be made by the President or Congress when DOE is prepared to request the capital funds for design and construction?

I applaud the work you have done in exploring technologies for HEU/Pu disposition, as well as sorting through the siting alternatives. I also appreciate the opportunity to attend the public meeting, and to comment on this EIS. Thank you!

FD319

FD319-1

Other

Nearly all AVLIS research to date has focused on uranium isotope separation and enrichment rather than purification. The AVLIS technology might not be suitable for purification of plutonium. Considerable research and proof-of-concept demonstrations would be required prior to such an application. The cost and time required for deployment of the AVLIS technology for this application would also be significant. Due to the potentially long development time, high costs, and attendant technical uncertainties, application of the AVLIS technology for plutonium purification was not deemed a reasonable disposition option in this SPD EIS. Discussion of treatment options that were considered and the maturity of the various technologies can be found in the ROD for the *Storage and Disposition PEIS*.

FD319-2

Nonproliferation

The United States and Russia recently made progress in the management and disposition of plutonium. In late July 1998, Vice President Gore and Russian Prime Minister Sergei Kiriyenko signed a 5-year agreement to provide the scientific and technical basis for decisions concerning how surplus plutonium will be managed. This agreement enables the two countries to explore mutually acceptable strategies for safeguarding and dispositioning surplus plutonium. Accordingly, the U.S. Congress appropriated funding for a series of small-scale tests and demonstrations of plutonium disposition technologies jointly conducted by the United States and Russia. For fiscal year 1999 (starting October 1998), Congress further appropriated funding to assist Russia in design and construction of a plutonium conversion facility and a MOX fuel fabrication facility. This funding would not be expended until the presidents of both countries signed a new agreement. The United States does not currently plan to implement a unilateral program; however, it will retain the option to begin certain surplus plutonium disposition activities in order to encourage the Russians and set an international example.

FD319-3

General SPD EIS and NEPA Process

DOE acknowledges and appreciates the commentor's support for the surplus plutonium disposition program and the related public outreach activities.

WESTINGHOUSE SAVANNAH RIVER COMPANY
 RICHARD TANSKY
 PAGE 1 OF 2

MISS HOLGATE: MR. NULTON HERE TODAY
 MY NAME IS RICHARD TANSKY I AM ~~STATIONED~~
 REEVALUATING THE TRAINING PROGRAM AT SRS AS THE ~~HOST~~
~~FOR WESTINGHOUSE SAV. RIVER CO. AS THE~~ SITE TRAINING MGR
 FOR WESTINGHOUSE
 I UNDERSTAND THAT AT THE HEARINGS CONDUCTED
 A PASTX THIS WEEK, THE ISSUE OF THE TRAINING
 AND QUALIFICATION OF THE WORKFORCE WAS APPROPRIATELY
 RAISED. WITHOUT FEELING THE NEED TO POINT OUT
 THE IMPORTANCE OF THE QUALIFICATIONS AND COMPETENCE
 OF THE WORKFORCE IN THE DECISION MAKING PROCESS.
 I'D TO POINT TO A FEW OF THE REASONS WHY THE
~~WORKFORCE AT SRS IS BEST~~ TRAINING + QUALIFICATION
 PROGRAM AT SRS SUPPORTS A DECISION TO
 LOCATE THE P₁ PIT DISASSEMBLY + CONVERSION MISSION
 AT SRS.

1

SCD09

SCD09-1

Alternatives

DOE acknowledges the commentor's views on SRS workforce qualifications and support for siting the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

~~IT IS THE BEST~~ ~~QUALIFIED~~ ^{most qualified}
SRS has the best trained workforce in the Complex. ^{SITE HAS STAFF ALREADY}
^{QUALIFIED + EXPERIENCED IN PV CONVERSION}
SRS has the only training programs accredited by the DOE Accrediting ^{PROCESS}
Board and has 17 training programs accredited.

Training programs in Operations, RadCon, and Maintenance carry college credit.

~~Training for nuclear facility operators enables them to analyze, predict and~~
~~troubleshoot.~~

Annual investment in Training at SRS is > \$40 million - 97% is directly
related to job qualification and safety. ^{AN ADDITIONAL \$2 MILLION IN ADDITION REIMB.}
^{SITE HAS OVER \$20 MILLION INVESTED IN TRAINING FACILITIES}

Training Program effectiveness is continually evaluated through:
Formal Self-Assessment Program
Facility Evaluation Board audits of facilities
Training Oversight Committee - ^{CHAIRSD BY EVF}

1

Other sites have adopted SRS training records ^{MANAGEMENT} system, procedures manual, and many training courses.

SRS Integrated Safety Management System ensures a workforce competent to carry out assignments safely.

SRS Training is exported to other DOE sites, commercial enterprises (MCG), and internationally (Russia)

DNFSB obtains Radworker Training from SRS and has lauded our aggressive training in creating and maintaining a culture of Disciplined Operations.

DOE Spent Fuels Team trained by SRS in RWT, Respiratory, and Asbestos prior to their trips to China, Russia, N. Korea, and India

SCD09

Intro

Fran Williams Vice President Environment, Safety, Health and Quality Assurance Division

- Provide oversight for Westinghouse to ensure our operations protect the safety and health of our employees and the public and that our operations are in compliance with state, federal, and DOE requirements in industrial safety, radiation and contamination control, environmental and health surveillance.

SCD34

Safety

- HISTORICALLY 1992-1996 Injury and Illness ranking of DOE Production Contractors prove WSRC is the best
 - » Lost Workday Case Rates for WSRC 0.3, Pantex 2.8 and DOE average was 1.0
 - » Total Recordable Case Rates for WSRC 0.7, Pantex 5.1 and DOE average 8.1
 - » Cases per 200,000 hours
- RECENTLY 1/97-9/97 Injury and Illness ranking of DOE Production Contractors prove WSRC is the best
 - » Lost Workday Case Rates WSRC 0.5, Pantex 2.4 and DOE Average 1.1
 - » Total Recordable Case Rates WSRC 1.1, Pantex 4.1 and DOE Average 7.4
- SRS has an outstanding Lost Work-Time Injury Record
 - Construction Workers earned the Westinghouse President's Award for working more than 2.5 MILLION hours without a lost-time injury
 - Operations recently reached the 3.8 MILLION hours mark without a lost-time injury
- Worker's Comp costs are 6 times LOWER than industry
- 1/97-9/97 Cost Index Ranking of DOE Production Contracts once again prove WSRC is the safest site in the complex
 - » WSRC 3.08, Pantex 28.85, and DOE average 14.4
 - » Coefficients should not be advertised as dollar figures - only as appropriate weighting factors
 - » Coefficients derived from study of direct and indirect dollar costs of injuries
 - » Index is approximately equal to cents lost per hour worked
- National Safety Council stated SRS level of employee participation is "incredible and an indication of a strong safety culture"
 - SRS responses ranked in the 89th percentile of the National Safety Council data base
 - » Only 11 of 100 companies scored higher

1

SCD34

SCD34-1

Other

DOE acknowledges the commentor's views on the positive attributes of SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

RadCon

- Historically SRS has been viewed as having the best RadCon Program in the DOE Complex
 - SRS supported Pantex in early 90s by lending technical assistance in directing cleanup and RadCon monitoring for TRITIUM releases
- Our employee surveillance programs are in place ON SITE and they exceed DOE requirements
 - Our State-of-the-Art Radiation Instrument Calibration Facility is a model for the DOE Complex
 - We also have a NEW Whole Body Count facility
 - External Dosimetry is DOELAP accredited
 - Bioassay program and Whole Body Count evaluation is in lock step for DOELAP accreditation
 - Nationally recognized expertise in both internal and external dosimetry
- SRS has the ONLY accredited RadCon Training Program in the DOE Complex
- SRS continuously strives to improve the programs to protect worker safety and health
 - Average Worker Dose (mrem/person) decreased 50% in last 10 years
 - » Better work planning, ALARA program (and scope reductions)
 - Intakes decreased by 67% over last 6 years
 - » Enhanced work planning and expansive RadCon job coverage
 - Personal Contaminations decreased 99% over last 10 years
 - » Engineering controls and rollbacks
- Medical Department consists of 9 physicians, 18 nurses and 5 facilities spread ACROSS the site to service our employees
 - Medical covers surveillance for radiological contamination, toxic and chemical exposure, injuries and illnesses, routine wellness programs and substance abuse testing.

1

SCD34

Environmental

- Largest DOE weapons site and second in the complex (WIPP 1st) to earn ISO 14001 certification.
- Met ALL environmental regulatory requirements in 1997
- Exceeded Goal of 98% Compliance with NPDES regulations by 1.9%
- SRS NEPA Team earned the National Association of Environmental Professionals Presidential Award of Excellence for NEPA/CERCLA Guidance
- Several SRS employees are working on ANSI standards development and regulation writing committees AT THE REQUEST of our regulators
 - WSRC expertise is valued based on our proven track record
- Another example of our regulator's confidence in WSRC is the fact that DHEC has granted WSRC permission to permit ourselves for drinking water, erosion control plans and for small volume waste waters

1

SCD34



United States
Department
of Energy

Comment Form

NAME: (Optional) DAVID WILLIAMS
ADDRESS: 127 ROLLING ROCK RD., AIKEN SC 29803
TELEPHONE: (803) 699-0121
E-MAIL:

CONGRATULATIONS TO DOE ON PERFORMING A THOROUGH INVESTIGATION INTO THE AREA'S OF CANDIDACY REGARDING SELECTION OF THE BEST SITE FOR DISPOSING OF COLD WAR PLUTONIUM STOCK PILES.

SRS SHOULD BE THE SITE CHOSEN BASED ON MERIT, TRACK RECORD OF SAFETY + THE RIGHT MIX OF TECHNICAL SUPPORT FROM ITS WORK FORCE. DIVERSIFYING + EMPHASIZING THE CHOICE FOR SRS IS THE CONCERN OF COST SAVINGS TO THE CITIZENRY OF THIS COUNTRY AND THE PUBLIC SUPPORT THAT THE NATION ENJOYS IN THIS COMMUNITY.

David J. Williams

1

SCD71

SCD71-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.



United States
Department
of Energy

Comment Form

NAME: (Optional) George Zachmann
ADDRESS: _____
TELEPHONE: (803) 952-4851
E-MAIL: _____

I feel that WSPC has proven itself as a safe and disciplined facility at which several stabilization missions have been successfully completed. It is only makes sense to perform Pu disposition mission at WSPC. The highly skilled technical workforce understands Conduct of Operations standards while meeting integrated schedules. I feel the Pu Disassembly and Conversion and MOX fuel fabrication should be performed at WSPC.

1

SCD60

SCD60-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.



STATE OF TENNESSEE

DON SUNDQUIST
GOVERNOR

September 16, 1998

Mr. G. Bert Stevenson, NEPA Compliance Officer
Office of Fissile Materials Disposition
US Department of Energy
PO Box 23786
Washington DC 20026-3786

Dear Mr. Stevenson:

As the Governor's Lead Contact for State of Tennessee's National Environmental Policy Act (NEPA) reviews, I am providing comments in response to the "Draft Environmental Impact Statement (DEIS) for Surplus Plutonium Disposition," DOE/EIS-0283-D. The attached comments from state agencies represent the complete and official response of the State of Tennessee.

The State of Tennessee would like to remind DOE that, although this DEIS does not directly pertain to inventories of stored plutonium in this state, plutonium wastes and contaminated equipment do exist in Tennessee and DOE must address the disposition of these wastes in the near future.

In addition, the DEIS does not fully discuss transport of wastes for disposition. If wastes are to be transported through Tennessee, and particularly if wastes are to be brought into Tennessee for postirradiation, the State has significant concerns which are not addressed. Specifically, the DEIS does not provide adequate analysis of routing, safety or inspection procedures.

I request that the enclosed comments be given your full consideration. As always, your timely consideration of the interests of the State of Tennessee is appreciated. If you have any questions, please contact our staff policy analyst at 615-532-4968 (fax 615-532-0740).

Sincerely,

Justin P. Wilson
Deputy to the Governor for Policy

JPW:emw

Attachments

cc: Mr. Milton H. Hamilton, Jr., Commissioner
NEPA coordination file/Mr. Dodd Galbreath
NEPA contacts

State Capitol, Nashville, Tennessee 37243-0001
Telephone No. (615) 741-2001

FD326

FD326-1

DOE Policy

DOE acknowledges the Governor's concern that existing plutonium wastes and contaminated equipment in the State of Tennessee be dispositioned appropriately. Most of the plutonium stored at ORR is in the form of waste. Approximately 600 g (21 oz) of plutonium 238 (not weapons-usable) has been declared excess and is being held in storage at ORNL awaiting transfer for use in the space program. Approximately 780 g (28 oz) of other plutonium isotopes have been repackaged and are awaiting transfer to LLNL. The scope of this SPD EIS includes alternatives for the disposition of weapons-usable plutonium declared surplus to U.S. defense needs. Other radioactive materials, wastes and spent nuclear fuel that contain plutonium are beyond the scope of this SPD EIS. Alternatives for management of radioactive and hazardous wastes were evaluated in the *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste* (DOE/EIS-0200-F, May 1997). RODs for TRU, hazardous and high-level waste have been issued; RODs for low-level and mixed low-level waste are expected shortly. Alternatives for management of spent nuclear fuel were evaluated in the *Department of Energy Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs Final EIS* (DOE/EIS-0203-F, April 1995). RODs for this EIS were issued in May 1995, and March 1996. Transportation and disposal of TRU waste are evaluated in the *WIPP Disposal Phase Final Supplemental EIS* (DOE/EIS-0026-S-2, September 1997). A ROD for the WIPP EIS was issued in January 1998. Transportation and disposal of spent nuclear fuel are evaluated in the *Draft EIS for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High Level Radioactive Waste at Yucca Mountain, Nye County, Nevada* (DOE/EIS-0250D, July 1999). A ROD has not been issued for the *Yucca Mountain EIS*.

As shown in the revised Section 1.6, if postirradiation examination is necessary for the purpose of qualifying the MOX fuel for commercial reactor use, DOE prefers to perform that task at ORNL. ORNL has the existing facilities and staff expertise needed to perform postirradiation examination as a matter of its routine activities; no major modifications to facilities or processing

capabilities would be required. In addition, ORNL is about 500 km (300 mi) from the reactor site that would irradiate the fuel.

FD326-2

Transportation

If ORNL is used for the postirradiation examination of spent lead assembly MOX fuel, DOE would prepare detailed transportation plans, including routing and safety procedures, for the movement of these materials. Transportation of spent nuclear fuel to ORNL for postirradiation examination is discussed in the revised Section 4.27.6.3. Section 4.27.6.3 and Appendix H were revised to include waste management impacts from these activities at ORNL.



THE STATE OF TENNESSEE
TENNESSEE EMERGENCY MANAGEMENT AGENCY
EMERGENCY OPERATIONS CENTER
MILITARY DEPARTMENT OF TENNESSEE
3941 SIDDONS DRIVE, P.O. BOX 41502
NASHVILLE, TENNESSEE 37204-1502
(615) 741-0001

September 11, 1998

Mr. G. Bert Stevenson, NEPA Compliance Officer
Office of Fissile Materials Disposition
U. S. Department of Energy
P. O. Box 23786
Washington, DC 20026-3786

Dear Mr. Stevenson:

RE: Document No. DOE/EIS 0283-D, **Draft Environmental Impact Statement, Office of Fissile Materials Disposition - Surplus Plutonium Disposition**

The Tennessee Emergency Management Agency has reviewed the above document. The following comments are respectfully submitted for your consideration.

1. Environmental Impact Statement does not provide any substantial information or data on which to base an evaluation such as numbers of shipments, shipment routes, or processing locations. 3
2. Roadworthiness and oversight of commercial carriers rollingstock carrying various physical and chemical forms of Surplus Plutonium is not addressed. Tennessee Highway Patrol Commercial Vehicle Enforcement Division Officers perform Commercial Vehicle Safety Alliance (CVSA) Enhanced out-of-service criteria inspections of vehicles carrying radioactive materials of a sensitive nature. 4
3. The radiological status verification of shipments is not addressed. State Division of Radiological Health physicists must verify the status of a shipment to minimize public perception of hazards posed by a shipment and to verify CFR compliance. 5
4. This Environmental Impact Statement does not address the ancillary risks to the public that Many thousands of gallons of toxic and caustic industrial chemical compounds in hundreds of semi-tractor-trailer shipments will pose to the public. In most cases the chemical properties of these shipments pose a much greater danger to the public than do the radiological considerations. 6

FD326

FD326-3

Transportation

The shipment of spent lead assembly MOX fuel using commercial carriers would be the subject of detailed transportation plans in which routes and specific processing locations would be coordinated with State, tribal, and local governments. Section 4.27.6 provides the number of shipments that would be required for this type of material.

The shipment of waste would be in accordance with the decisions reached on the *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste* (WM PEIS) (DOE/EIS-0200-F, May 1997) and the *WIPP Disposal Phase Final Supplemental EIS* (DOE/EIS-0026-S-2, September 1997).

The transportation of special nuclear materials is the subject of detailed planning with the DOE Transportation Safeguards Division. The dates and times that specific transportation routes would be used for special nuclear materials are classified information; however, the number of shipments that would be required, by location, has been included in this EIS. Additional details are provided in *Fissile Materials Disposition Program SST/SGT Transportation Estimation* (SAND98-8244, June 1998), which is available on the MD Web site at <http://www.doe-md.com>.

FD326-4

Transportation

DOE has developed and implemented a mandatory Motor Carrier Evaluation Program with 12 criteria for commercial trucking firms. Under the Motor Carrier Evaluation Program criteria, trucking firms with poor safety records would be excluded from transporting the materials required for the surplus plutonium disposition program. The Motor Carrier Evaluation Program would be invoked as one of the requirements in DOE's contract for shipping of any radioactive material. As stated in Appendix L.3.2, equipment used in this system is subjected to significantly more stringent maintenance standards than commercial transport equipment.

FD326-5**Transportation**

Transportation of nuclear materials would be in compliance with all applicable Federal, State, and local laws, rules, regulations, and requirements.

The remainder of this comment is addressed in responses FD326-3 and FD326-4.

FD326-6**Transportation**

Any shipment of hazardous materials involves some level of risk, and exposure to acutely toxic chemicals can pose a significant danger to the public. Fortunately, transportation accidents involving releases of hazardous materials occur infrequently.

The shipment of hazardous materials required for construction and operation of the proposed surplus plutonium disposition facilities would be in strict accordance with applicable DOT regulations that cover the packaging and transportation of hazardous materials on public highways, airways, and waterways. These shipments would also be in compliance with all applicable State, tribal, and local laws, rules, regulations, and requirements. The DOT regulations include those specified in 49 CFR 172 and 173. Part 172 contains the Hazardous Materials Table which lists and classifies various types of hazardous materials (e.g., explosives, flammables, gases, corrosives, poisons, infectious substances, radioactive materials, etc.) and specifies related modal and placarding, marking, and labeling requirements. Part 172 also describes shipper and carrier responsibilities including driver training and emergency response requirements. Part 173 describes DOT performance-based packaging requirements and shipper responsibilities for material classification and notification.

DOT implements these regulations through its Hazardous Materials Safety Program. This program is a risk-based, prevention oriented system that uses data, information, and experience to classify hazardous materials and manage the risks of these materials in transport. As part of this program, DOT maintains a Hazardous Materials Information System (HMIS), which is a database of the Hazardous Material Incident Reports that have been filed with DOT. According to HMIS, in 1994, the risk of a fatality in the general

population from a hazardous materials transportation incident was estimated to be 1 chance in 13 million on an annual basis. By comparison, the annual fatality risk values for selected other types of incidents were estimated to be: (1) motor vehicle accidents - 1 in 6,100; (2) drowning - 1 in 68,000; (3) fires - 1 in 83,000; (4) railway accidents - 1 in 390,000; (5) commercial air carrier accidents - 1 in 1 million; (6) floods (in 1991) - 1 in 2.5 million; (7) lightning (in 1995) - 1 in 3.5 million; and (8) tornado (in 1995) - 1 in 8.7 million (see <http://hazmat.dot.gov/riskscompare.htm>).

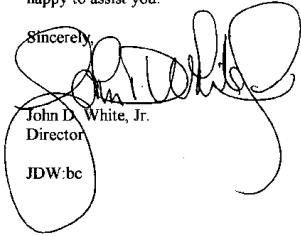
The industrial chemicals expected to be required for construction and operation of the proposed facilities are identified in Appendix E. These chemicals would be acquired through normal, commercial processes, and would be delivered in accordance with the established transportation safety standards described above. Since these chemicals would be acquired on the local or regional commercial markets, their origins cannot be determined; therefore, the incremental risks resulting from the shipment of these materials cannot be quantified. However, the DOT data presented above suggest that the incremental risks associated with these shipments should be small in relation to other recognized hazards.

Mr. G. Bert Stevenson
September 11, 1998
Page 2

- 5. The overall impact of MOX fuel on the commercial reactor fuel industry is not addressed. Projected usage needs by the industry versus quantities available from other in-place sources is not addressed. | 7
- 6. What is the proposed disposition of Transuranic waste generated? | 8
- 7. What is the proposed disposition of the High and Low Level waste generated?

If you have any further questions, please contact Elgan Usrey at (615) 741-2879 and he will be happy to assist you.

Sincerely,



John D. White, Jr.
Director
JDW:bc

FD326

FD326-7

MOX Approach

The MOX facility would produce nuclear fuel that would displace LEU fuel that utilities would have otherwise purchased. However, this should have minimal impact on the industry. DOE conducted a procurement process to acquire MOX fuel fabrication and irradiation services. As a result of this procurement process, DOE identified Catawba, McGuire, and North Anna as the proposed reactors to irradiate MOX fuel, as part of the proposed action in this SPD EIS. Therefore, only 3 out of approximately 107 operating domestic, commercial reactors would use the MOX fuel. MOX fuel is approximately 95 percent uranium dioxide and only about 5 percent plutonium dioxide, and no more than about 40 percent of any core would be MOX fuel. Production volume would also not change significantly; the number of MOX fuel assemblies would be only a small percentage of the total number of fuel assemblies produced annually. Finally, since the selected MOX fuel fabricator would also be a producer of LEU fuel, the work would remain in the same industry; the only changes would be the material used and location of the work.

FD326-8

Waste Management

As described in Appendix H and the Waste Management sections in Chapter 4 of Volume I, TRU waste would be disposed of at WIPP. MOX spent fuel and HLW canisters containing immobilized surplus plutonium would be disposed of in a potential geologic repository. This SPD EIS assumes, for the purposes of analysis, that Yucca Mountain, Nevada, would be the final disposal site for all immobilized plutonium and MOX spent fuel. As directed by the U.S. Congress through the NWPA, as amended, Yucca Mountain is the only candidate site currently being characterized as a potential geologic repository for HLW and spent fuel. DOE has prepared a separate EIS, *Draft Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada* (DOE/EIS-0250D, July 1999), which analyzes the environmental impacts from construction, operation and monitoring, related transportation, and eventual closure of a potential geologic repository.



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DOE OVERSIGHT DIVISION
761 EMORY VALLEY ROAD
OAK RIDGE, TENNESSEE 37830-7072

September 16, 1998

US Department of Energy
Office of Fissile Materials Disposition
c/o SPD EIS
Post Office Box 23786
Washington DC 20026-3786

Dear Sirs

DOCUMENT REVIEW: Draft Environmental Impact Statement, "Surplus Plutonium Disposition," DOE/EIS-0283-D, July, 1998.

The Tennessee Department of Environment and Conservation DOE Oversight Division (TDEC DOE-O) has reviewed the above Draft Environmental Impact Statement (EIS). The subject EIS was reviewed in accordance with the requirements of the Nation Environmental Policy Act (NEPA) and associated implementing regulations 40 CFR 1500, 1508 and 10 CFR 1021 as implemented.

The State does want to note that there are quantities of plutonium in the form of TRU waste, contaminated equipment, spent fuel, and working inventory still present on the Oak Ridge Reservation. Although not pertinent to this EIS, this plutonium will require final disposition and should to be addressed by DOE. Attachment 1 contains our current understanding of the plutonium inventory on the Oak Ridge Reservation.

After review of the subject document, the Division offers the following comments for your consideration:

Specific Comments:

1. Volume I, Part A, Section 2.1.3., Page 2-9

ORNL is a potential site for postirradiation examination of the lead assemblies. The DPEIS states that "...only minor modifications for the receipt of materials would be required." The PEIS should address what these "minor modifications" include.

2. Volume I, Part A, Section 2.4.3.2, Page 2-30

The MOX facility's proposed design would warehouse a year's production of fuel assemblies. The DPEIS also states the individual fuel assemblies could be stored for as long as 18 months prior to shipment to the designated domestic, commercial reactor. The statement of storage for up to 18 months suggests overproduction and possibility of long-term storage of unused/unwanted MOX fuel assemblies.

FD326

As described in Sections 2.18.3 and 4.28.2.8, additional spent fuel would be produced by using MOX fuel instead of LEU fuel in domestic, commercial reactors. Spent fuel management at the proposed reactor sites would not be expected to change dramatically due to the substitution of MOX assemblies for some of the LEU assemblies. Likewise, the additional spent fuel would be a very small fraction of the total that would be managed at the potential geologic repository. LLW would be disposed of in accordance with current site practices. This could include disposal at the DOE site generating the waste, or disposal at commercial facilities or other DOE sites in accordance with decisions made with respect to LLW in the WM PEIS (DOE/EIS-0200-F, May 1997).

FD326-9

Lead Assemblies

As discussed in response FD326-1, ORNL is the preferred alternative for postirradiation examination of lead assemblies. Section 2.17.3 was revised to indicate that at either ANL-W or ORNL, minimal modifications to existing equipment would be required for acceptance of full-length fuel rods.

FD326-10

MOX Approach

The SPD Draft EIS's specification of assembly storage for up to 18 months is a bounding assumption for planning and analysis purposes. This SPD EIS reflects an extension of the possible storage time of individual assemblies to up to 2 years, a storage period that is neither expected nor desirable from a business standpoint. As stated in Section 2.4.3.2, production would closely follow product need. Reactor licensees typically order LEU fuel to coincide with their refueling outages, and fuel shipment is usually scheduled so that fuel does not have to be stored very long at the reactor site. Licensees work closely with each of the vendors involved in the fuel fabrication process, as well as the fuel fabricators, to ensure that the fuel is ready when needed. The only likely difference in this process for MOX fuel would be a closer relationship between the licensee and the fabricator; the two would work as a team. Reactor shutdowns and other operational issues that could affect the need for fuel would be accommodated in the fuel fabrication schedules, and adjustments would be made as required.

3. Volume I, Part A, Section 2.4.3.2, Page 2-30

Please provide additional details for the statement "Individual fuel assemblies could be stored for as long as 18 months..." Describe the significance of the 18 months and what happens if storage exceeds 18 months.

10

4. Volume I, Part A, Section 2.4.4.4, Page 2-36

This section needs to describe the events as listed in Table 2-3. Table 2-3 addresses transportation requirements for shipment of uranium fuel rods from a commercial fuel fabrication facility to the MOX facility. Section 2.4.4.4 does not address the commercial truck shipment of uranium fuel rods from a commercial fuel fabrication facility to the MOX facility. Describe the reason for shipment of these uranium fuel rods to the MOX facility.

11

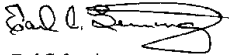
5. Volume I, Part B, Section 4.27.6, Page 4-374

ORNL is a candidate for postirradiation examination of the lead MOX fuel assemblies. The DPEIS does not address the waste streams associated with the testing nor does it describe the storage/disposal of the lead assemblies once testing has been concluded.

12

If you have any questions regarding this letter, please contact Bill Childres or me at (423) 481-0995

Sincerely



Earl C. Leming
Director

xc: Justin Wilson - Governor's Office
Jim Hall - DOE
Dodd Galbreath - TDEC

el415.99

FD326

In the event that MOX fuel were made and then not be needed due to NRC not issuing a license amendment or other factors, DOE would be responsible for the unirradiated fuel and would reexamine its disposition option.

FD326-11

Transportation

Section 2.4.4.4 includes the shipment of uranium fuel rods from a commercial fuel fabrication facility to the MOX facility. Both uranium fuel rods and MOX fuel rods are bundled together at the MOX facility to form a complete MOX assembly.

FD326-12

Waste Management

Section 4.27.6.3 and Appendix H were revised to include waste management impacts from these activities at ORNL.

Attachment 1

SUBJECT: Oak Ridge Plutonium Inventory and the *Surplus Plutonium Disposition Draft Environmental Impact Statement*, DOE/EIS-0283-D, U.S. Department of Energy dated July 1998

REFERENCE: 1. *Plutonium Working Group Report on Environmental, Safety and Health Vulnerabilities Associated with the Department's Plutonium Storage*, DOE/EH-0415, U.S. Department of Energy dated November 1994

2. *Site Integrated Stabilization Management Plan (SISMP) for the Implementation of Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 94-1 (and 97-1)* dated April 15, 1998

CRITERIA and SCOPE:

Surplus Plutonium from above subject *Surplus Plutonium EIS* (originally from the *Storage and Disposition PEIS*): This document evaluates "weapons-usable fissile materials" (including all isotopes of plutonium except plutonium-238) that were declared "surplus" by the President in March 1995. In addition, "...plutonium that may be declared surplus in the future..." was evaluated. It is noteworthy that none of the Oak Ridge plutonium is included in the PEIS or the EIS.

Plutonium evaluated under vulnerabilities as reported in Reference 1, *Plutonium Working Group Report*: This report includes all of the Oak Ridge plutonium that is not considered "waste," nuclear reactor fuel, or spent nuclear fuel.

Plutonium evaluated under *Recommendation 94-1* as reported in Reference 2: "These criteria define an acceptable interim "end state" for stabilization and repackaging of Pu-bearing materials. The criteria do not apply to materials in working inventory, Pu associated with SNF, Pu-bearing liquids, or sealed (fabricated) Pu-bearing components. The criteria also do not apply to waste items (e.g., tools and equipment) whose surfaces are contaminated with low levels of Pu."

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FD326

FD326-13

Waste Management

As described in Section 1.1, this SPD EIS addresses only surplus plutonium that is considered weapons usable. None of this plutonium is currently located at the Oak Ridge Reservation, and therefore, it is not addressed in this EIS.

TENNESSEE GOVERNOR'S OFFICE
JUSTIN P. WILSON
PAGE 10 of 11

OAK RIDGE PLUTONIUM INVENTORY:

(from reference 1. *Plutonium Working Group Report* dated November 1994)

Building	Kilograms	Form	Packages
Inst. Calibration, 2007	**	sealed sources	2
Analytical Lab, 2026	**	metal	1
Special Nuclear Material Vault, 3027	1.385	metal, oxide, scrap/residues, & sealed sources	106
Isotope Dispensing, 3038	**	metal & oxide	15
I & C Calibration, 3500	**	sealed sources	1
Alpha Isolation Laboratory, 3508	**	sealed sources	1
High Level Radiochemical Lab, 4501	**	solution	10
Transuranium Research, 5505	**	metal, oxide, & solution	21
Heavy Ion Accelerator, 6000	**	sealed sources	2
Linear Accelerator, 6010	**	metal & sealed sources	6
Tower Shielding Facility, 7700	**	sealed sources	4
Dosimetry Research, 7710, 7712, 7735	**	sealed sources	8
Waste Exam. Facility, 7824	**	scrap/residues & sealed sources	86
High Flux Isotope Reactor, 7900	**	metal	3
Radiochemical Engineering Development Center (REDC), 7920	1.46	oxide, solution, & sealed sources	111
Radiochemical Engineering Development Center (REDC), 7930	**	metal, oxide, scrap/residues, & sealed sources	175
Isotope Enrichment, 9204-3	**	oxide & solution	16
Uranium Casting, 9212	1.04	sealed sources	8
Source Storage, 9213	**	sealed sources	46
K-25 (ETTP), K-1025D	0.031	oxide	3
Oak Ridge Institute for Science and Education (ORISE), 2715 & Room E-38	0.028	Pu/Be sources	2
Total amount of plutonium at Oak Ridge in the Working Group Vulnerabilities Report	4.6 Kg (Vol. I, page 50)	metal, oxide, scrap/residues, & sealed sources	627

**Inventory is < 1 Kg.

Note: 1. The above is 1994 data from Reference 1, *Plutonium Working Group Report*, Vol. I, pages 50, A-18, & A-19, and Vol. II, Part 13, pages 8, 9 & 10 and has changed as follows since the report was written:

185 g has been packaged as waste and some or all is being stored in retrievable storage at ORNL/SWSA 5.

627 g has been packaged as waste and will be sent to LLNL for disposal in 2000.

609 g is Pu-238 and is being sent to REDC for possible use on the RTG program if the RTG program is transferred from the Mound Plant to ORNL.

The remainder of the plutonium listed in the above table is "working inventory" and will remain in the respective programs.

The above updated inventory information was obtained from Reference 2 and updated by L. T. Gordon, Plutonium Vulnerability Assessment Program Manager at ORNL based on July 7, 1998 data.

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FD326

2. Oak Ridge also has approximately 40 to 70 Kg of plutonium, most of which is in the TRU waste or spent fuel categories and considered "out-of-scope" for the documents listed above. Reference 1, *Plutonium Working Group Report*, Volume II, Part 9, pages 5-7 lists 37 facilities that contain material (plutonium waste or TRU containing no plutonium) determined to be outside the scope of that document. Page 31 of that document further clarifies plutonium that is out-of-scope for the vulnerabilities review. None of this plutonium is included in the 4.6 Kg total listed in the above table.

13

3. The above table does not include plutonium being processed at REDC for the Mark 42 Project. Plutonium waste products from the Mark 42 project will be added to the inventory explained under item 2 above.

FD326

WALTON, BARBARA A.
PAGE 1 OF 2

85 Claymore Lane
 Oak Ridge, TN 37830
 September 14, 1998

To: DOE-Office of Fissile Materials Disposition
 From: Barbara A. Walton
 Subject: Surplus Plutonium Disposition (SPD) Draft Environmental Impact Statement (EIS)

1. I support DOE's preference for siting plutonium immobilization at SRS. | 1
2. I support Pit Disassembly and Conversion at Pantex. | 1
3. Because I am concerned about the cumulative impacts at SRS, I would prefer alternative 9A to 3A or 5A. Even better would be to consider siting the MOX Fuel Fabrication at INEEL to create an alternative that was not considered in this EIS. It is not clear to me that this would detract from INEEL's focus on cleanup and nuclear technology. | 2
4. Although I understand the need to consider Russia's progress in this matter, I don't think construction of items 1 and 2 above should wait. Delaying the MOX Fuel Fabrication construction should be sufficient along with potential for delay in processing | 3

I am pleased to see continued progress towards resolution of this matter.

I also want to request a copy of the Final EIS and ROD.

Barbara A. Walton

MD185

MD185-1

Alternatives

DOE acknowledges the commentor's support for siting the immobilization facility at SRS and the pit conversion facility at Pantex. As indicated in the revised Section 1.6, DOE prefers siting the pit conversion and MOX facilities at SRS. SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure. The preferred can-in-canister approach at SRS complements existing missions, takes advantage of existing infrastructure and staff expertise, and enables DOE to use an existing facility (DWPF). DOE is presently considering a replacement process for the in-tank precipitation (ITP) process at SRS. The ITP process was intended to separate soluble high-activity radionuclides (i.e., cesium, strontium, uranium, and plutonium) from liquid HLW before vitrifying the high-activity fraction of the waste in DWPF. The ITP process as presently configured cannot achieve production goals and safety requirements for processing HLW. Three alternative processes are being evaluated by DOE: ion exchange, small tank precipitation, and direct grout. DOE's preferred immobilization technology (can-in-canister) and immobilization site (SRS) are dependent upon DWPF providing vitrified HLW with sufficient radioactivity. DOE is confident that the technical solution will be available at SRS by using radioactive cesium from the ion exchange or small tank precipitation process. A supplemental EIS (DOE/EIS-0082-S2) on the operation of DWPF and associated ITP alternatives is being prepared. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

MD185-2

Cumulative Impacts

DOE acknowledges the commentor's concern about the cumulative impacts from the proposed surplus plutonium disposition facilities at SRS. Section 4.32 takes into consideration existing missions at candidate sites, and analyzes the potential cumulative impacts of surplus plutonium disposition activities and other programs as well as current, past, and reasonably foreseeable

future activities at other sites. As discussed in Section 4.14, Alternative 7 considers siting the MOX facility at INEEL.

MD185-3

Purpose and Need

DOE acknowledges the commentor's concerns about scheduling the construction and operations of the proposed surplus plutonium disposition facilities. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again. Russian policy, however, is only one of the factors in decisions relative to the methods and timing of surplus plutonium disposition.

City of Amarillo, Texas

Comments of Hon. Dianne Bosch Regarding the DOE Surplus Plutonium Disposition Draft Environmental Impact Statement

I would like to begin by thanking the Department of Energy for the opportunity to comment on matters of great importance to the Amarillo area. As a City Commissioner for the largest city in this region, let me say that I strongly favor the Pantex Plant as the single preferred alternative for the DOE's Pit Disassembly and Conversion mission.

This mission has been extensively reviewed by experts from federal and state government agencies, university researchers and workers from Pantex. Based on their reports, I believe that the Pit Disassembly and Conversion facility can be operated in a manner that does not threaten our precious natural resources. Specifically, I believe that this facility would not pose a threat to the Ogallala aquifer, which supplies irrigation and drinking water to this region.

One reason for my confidence in the safety of this mission is the excellent work force at Pantex. Pantex has been a good neighbor to our city for over 50 years. Pantex has the best radiological safety record in the nuclear complex, and it is the only site that has a large number of workers who are specifically trained to handle and safeguard plutonium weapons components. The components, often called "pits," are already safely stored at Pantex.

The Pantex workforce is second-to-none in its implementation of safety initiatives such as the Voluntary Protection Program. This employee-based safety program has been successful in reducing occupational hazards and has become a model for the entire DOE weapons complex. In addition, the Metal

Dianne Bosch
City Commissioner
City of Amarillo
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Amarillo, TX 79186
(806) 378-3000

TXD29

TXD29-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at Pantex. As the commentor points out, and as indicated in Chapter 4 of Volume I, impacts of operating the pit conversion facility on health, safety, and the environment at Pantex would likely be minor. Decisions on the surplus plutonium disposition at Pantex will be based on such environmental analyses, as well as technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

**AMARILLO
HONORABLE DIANNE BOSCH
PAGE 2 OF 2**

Hon. Dianne Bosch
Page 2

Trades Council has safety officers to whom employees may directly address safety concerns. The Savannah River Site does not have either of these important safety programs in place.

The Department of Energy should carefully consider the enhanced safety programs already in place at Pantex when deciding where to locate the Pit Disassembly and Conversion Facility. Furthermore, the Department should understand that union support in Washington will play a crucial role in getting this expensive program funded by the Congress. A viable Pantex plant, with the strong bi-partisan support of the Texas congressional delegation and the national AFL-CIO is important to the long-term future of both the Surplus Plutonium Disposition program and the DOE weapons complex.

Pantex has the key technical and political advantages that make it the only logical choice for Pit Disassembly and Conversion. I urge the Secretary of Energy to name Pantex as the site for this important mission. Again, thank you for the opportunity to comment.

1

Dianne Bosch
City Commissioner
City of Amarillo
P. O. Box 1971
Amarillo, TX 79186
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TXD29

City of Amarillo, Texas

Comments of Hon. Robert Keys Regarding the DOE Surplus Plutonium Disposition Draft Environmental Impact Statement

Welcome to Amarillo and thank you to the Department of Energy for allowing the elected officials and residents of the Amarillo area comment on the Surplus Plutonium Disposition program. Pantex is a very important part of the economy for the entire northwest region of the state of Texas. As such, the economic future of this area is tied very closely to the future of the Pantex Plant.

The Amarillo City Commission has supported new missions at Pantex for many years. We have insisted, and continue to insist, that all such missions be conducted in a manner that protects the natural resources of the Texas panhandle. My fellow Commissioners and I believe that the Pit Disassembly and Conversion and MOX fuel manufacturing missions can, and should be, performed in a safe manner at Pantex.

When I am not wearing my "City Commissioner" hat, I operate a land surveying business. On numerous occasions, I have performed surveying work at Pantex. I am always impressed with the care shown by employees at the plant regarding care for the environment. The pump-and-treat and ground water monitoring systems in place at Pantex are state of the art. I have every confidence that the employees at Pantex would perform the Pit Disassembly and Conversion and MOX manufacturing missions with great care and in a manner that protects the environment of this region.

Furthermore, on my visits to Pantex, I am always impressed with the outstanding security procedures in place to protect classified weapons

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TXD28

TXD28-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion and MOX facilities at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

**AMARILLO
HONORABLE ROBERT KEYS
PAGE 2 OF 2**

Hon. Robert Keys
Page 2

components. With recent announcements of underground nuclear testing by India and Pakistan, and with well known weapons programs in Iraq, Iran and North Korea; it is obvious that many countries or other groups would like to have weapons such as those at Pantex. For this reason, the DOE's own non-proliferation experts have recommended that the transport of plutonium weapons components should be minimized. The United States even pays Russia to minimize the transport of their weapons components. Surely, if we are spending US tax dollars in Russia to minimize transport of their weapons, we should also be willing to equally safeguard our nuclear secrets in this country.

2

The workforce in the Texas panhandle is truly outstanding. We just received confirmation of this fact when Bell Helicopter announced plans to assemble the V-22 Osprey Tiltrotor aircraft in Amarillo. Surely the DOE should also recognize the outstanding work ethic and expertise of the people of this region. You need not look further than this room tonight to see evidence of the passion, integrity and expertise of Pantex workers from the panhandle of Texas. These same employees are the best qualified to work with plutonium pits removed from nuclear weapons. Since these pits are already stored at Pantex, the Pit Disassembly and Conversion and MOX Fuel Manufacturing missions should also be performed at Pantex.

1

Once again, thank you for the opportunity to comment on this important matter. I urge the Secretary of Energy to name Pantex as the site for Surplus Plutonium Disposition missions.

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(806) 378-3000

TXD28

TXD28-2

DOE Policy

DOE acknowledges the commentor's concern regarding safe transport of weapons-usable plutonium. In order to address security against terrorist-related incidents, all intersite shipments of plutonium for the surplus plutonium disposition program would be made using DOE's SST/SGT system. This involves having couriers that are armed Federal officers, an armored tractor to protect the crew from attack, and specially designed escort vehicles containing advanced communications and additional couriers. The transportation of special nuclear materials is the subject of detailed planning with DOE's Transportation Safeguards Division. The dates and times that specific transportation routes would be used for special nuclear materials are classified information; however, the number of shipments that would be required, by location, has been included in Appendix L of this SPD EIS. Additional details are provided in *Fissile Materials Disposition Program SST/SGT Transportation Estimation* (SAND98-8244, June 1998), which is available on the MD Web site at <http://www.doe-md.com>.



CITY OF AMARILLO

August 10, 1998

Good Afternoon,

As always, I would like to thank the Department of Energy for the opportunity to provide comments on this most important issue. For the last four to five years, members of this community have come to these hearings you have provided for many issues relating to the Pantex Plant. We take time out of our days to do this because we care about the outcome of Pantex and the workforce who has provided a security comfort to the entire nation for many decades.

The issue involving pit disassembly may be the biggest issue that we as a nation will face going into the next millennium. The safety of our entire nation is at stake. The components making up our nuclear arsenal should be handled with the greatest of care in order to make certain that our environment doesn't suffer from this obviously needed procedure. Pantex has had the gargantuan task of providing this service to our nation for many years. The plant has always performed in the safest manner possible for the workers, environment and surrounding community members.

I represent the city of Amarillo as an elected official. For close to eight years the people have been asking me to speak in favor of expanded activity at the Pantex Plant. Today I come to you as an elected official as well as a resident of Amarillo to do just that. I believe there is only one site that has a proven positive track record in the handling of plutonium after disassembly, Pantex. The workers have proven that safety comes first before production, and have more experience in handling plutonium pits than any other site in the complex. The DOE should not place classified weapons components in the hands of employees at the Savannah River Site who have extremely limited experience in dealing with pits.

Just one advantage Pantex has over Savannah River Site is that converting classified plutonium weapons components ("pits") into non-classified forms at Pantex requires no off-site shipment of pits. Performing the work at Pantex would

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P. O. Box 1971, Amarillo, Texas 79186-0001 806/378-3000 Fax 806/378-3018

TXD02

TXD02-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on such environmental analyses, as well as technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

TXD02-2

Alternatives

As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure.

TXD02-3

Transportation

DOE acknowledges the commentor's concern for the security of offsite shipment of pits. As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures or vehicle emissions are expected. Transportation would be required for both the immobilization and MOX approaches to surplus plutonium disposition. Transportation of special nuclear materials, including fresh MOX fuel, would use DOE's SST/SGT system. Since the establishment of the DOE Transportation Safeguards Division in 1975, the SST/SGT system has transported DOE-owned cargo over more than 151 million km (94 million mi) with no accidents causing a fatality or release of radioactive material. The transportation requirements for the surplus plutonium disposition program are also evaluated in this SPD EIS. Section 2.4.4.1 discusses safety measures taken for shipment of pits.

AMARILLO
HONORABLE KEVIN KNAPP
PAGE 2 OF 2

decrease the risk of classified weapons parts falling into unfriendly hands. The DOE should heed the advise of its own nuclear non-proliferation experts who have argued to minimize shipments of pits. 3

Given these advantages and many others that have or will be mentioned today, I urge you to give full consideration to Pantex for the mission of pit disassembly and disposal.

Sincerely,



Kevin Knapp
Amarillo City Commissioner

TXD02

**AUGUST 11, 1998
COMMENTS OF HONORABLE KEL SELIGER REGARDING
THE DOE SURPLUS PLUTONIUM DISPOSITION
DRAFT ENVIRONMENTAL IMPACT STATEMENT**

Thank you for the opportunity to address the Department this evening. We live in exciting times in Amarillo and in the United States. The dawn of a new millennium is a signal that we are going to see the tremendous changes in the years ahead. However, our focus on the future should not be interpreted as an endorsement of forgetting our history. A big part of the history of this nation during the last half of the 20th century has been the nuclear weapons program. Amarillo and Pantex are proud to have played a big part in the success of that program for nearly 50 years. We believe that we are an irreplaceable element in this era of disarmament.

The success of the Pantex plant over the past 50 years should not be forgotten when considering the future of the nuclear weapons complex. Pantex has long had one of the lowest operating costs in the weapons complex and it has had excellent relations between the contractor and the largest labor bargaining unit. Pantex is among the cleanest weapons complex sites from an environmental perspective. The Department has recently

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TXD37

TXD37-1

Alternatives

DOE acknowledges the commentor's support of Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

Hon. Kel Seliger
August 11, 1998
Page 2

recommended that Pantex be removed from the National Priorities List because of the excellent progress being made in the environmental area. Pantex has long had outstanding support of the public in the Texas panhandle and the elected officials who represent this area at the local, state and federal levels.

1

When considering the future mission assignments that could come to Pantex, such as the Pit Disassembly and Conversion and MOX Fuel missions, the DOE should consider the substantial strengths possessed by Pantex. The recent financial analysis conducted by the DOE shows that there is no significant cost difference between Pantex and Savannah River. In fact, I believe that report significantly underestimates the cost of repackaging pits for off-site transport from Pantex to Savannah River if the South Carolina site is chosen for both new missions. In addition to the cost of shipping pits, the Department should listen carefully to its own non-proliferation experts who favor the minimization of pit transport.

2

From an environmental aspect, the Department has shown that both pit

3

TXD37

TXD37-2

Transportation

DOE acknowledges the commentor's support for siting the pit conversion and MOX facilities at Pantex. Because this comment relates directly to the cost analysis report, it has been forwarded to the cost analysis team for consideration. The *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, is available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS and Washington, D.C.

The transportation requirements for the surplus plutonium disposition program are evaluated in this SPD EIS. If the pit conversion facility were located at Pantex (Alternative 5), the risks from transportation-related radiological exposures would be an estimated 7.8×10^{-2} LCF, and from traffic accidents (non-radiological), an estimated 5.2×10^{-2} fatality. For comparison, if the pit conversion facility was located at SRS (Alternative 3), the risks would be slightly higher, 8.0×10^{-2} LCF and 5.6×10^{-2} fatality, respectively. Transportation impacts are summarized in Chapter 4 of Volume I and Appendix L. As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures or vehicle emissions are expected.

TXD37-3

Alternatives

This comment is addressed in response TXD37-1.

Hon. Kel Seliger
August 11, 1998
Page 3

disassembly and MOX fuel manufacture can be done without harm to the natural environment. The choice comes down to where the work will be done correctly. Pantex has a continuing production mission and a highly qualified workforce that pays careful attention to detail. The very people who are promoting the Savannah River Site for this work say in essence "put the missions here because we are a dirty site and we don't care if we get it dirtier." In the future, can DOE afford to have that attitude prevail? We believe this work can be done safely, but only if it is performed by employees who have a true commitment to doing so. Pantex employees have long demonstrated such a commitment.

I would like to remind the Department that it has enjoyed strong support from the Texas Delegation in the Congress to accomplish its defense, maintenance and remediation missions. This same delegation has supported Pit Disassembly, Conversion and MOX production at the Pantex plant.

There is no reason to assume that there will be such support in transporting weapons ready plutonium half way across the country. That is, unless the

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TXD37

TXD37-4

DOE Policy

DOE acknowledges the commentor's concern for environmental issues related to surplus plutonium disposition. Cleanup at SRS is a priority and will remain a priority, and can coexist with other DOE initiatives. Although the surplus plutonium disposition program is also considered a top priority, it would be conducted in such a way that any additional waste would be processed and disposed of in a timely and environmentally acceptable manner.

TXD37-5

Alternatives

This comment is addressed in response TXD37-1.

TXD37-6

Transportation

This SPD EIS analyzes the risk involved in transporting weapons-usable plutonium between DOE sites for processing. Transportation would be required for both the immobilization and MOX approaches to surplus plutonium disposition. Transportation of special nuclear materials, including fresh MOX fuel, would use DOE's SST/SGT system. Since the establishment of the DOE Transportation Safeguards Division in 1975, the SST/SGT system has transported DOE-owned cargo over more than 151 million km (94 million mi) with no accidents causing a fatality or release of radioactive material. As discussed in Appendix L.3.2, key characteristics of the SST/SGT system include, but are not limited to, couriers who are armed Federal officers, specially designed escort vehicles, 24-hour real-time monitoring, and stringent maintenance standards. Appendix L.6.5 discusses sabotage or terrorist attack during transportation.

Hon. Kel Seliger
August 11, 1998
Page 4

Department of Energy has decided that minimization of the risk of proliferation is no longer a priority. I have seen no such pronouncement.

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I urge the Secretary of Energy to carefully consider all of these aspects before making a final decision on the site location for Pit Disassembly and Conversion and MOX fuel manufacturing. Keeping these factors in mind, I strongly recommend that the Secretary name the Pantex Plant for these missions.

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TXD37

TXD37-7

This comment is addressed in response TXD37-1.

Alternatives



CITY OF AMARILLO

Comments of Hon. Trent Sisemore Regarding the DOE Surplus Plutonium Disposition Draft Environmental Impact Statement

Thank you for allowing me the opportunity to represent my constituents in Amarillo by making comments on the draft EIS for Surplus Plutonium Disposition. It is an honor to represent more than 170,000 residents in Amarillo. Thousands of those residents are either Pantex employees or live in households of Pantex employees. Pantex has a profound effect on our local economy. I am proud of the support that the people of Amarillo have shown for the Pantex facility, and it is my pleasure to state that I wholeheartedly support the location of the Pit Disassembly and Conversion Facility and MOX Fuel Fabrication Facility at Pantex.

In addition to representing the citizens of Amarillo as a City Commissioner, I am also a retailer and music minister. Since none of these "credentials" qualify me as an expert in nuclear physics, I have sought to become familiar with Pantex and the proposed new missions that may come to Pantex. In my research on Pantex, I have read reports, talked with experts and even toured nuclear facilities in England and France.

After having done all that, one fact stands out. The type of work envisioned in the plutonium disposition program can be done safely by the outstanding employees at Pantex. In fact, the DOE has said that both the pit disassembly and MOX fuel missions can be done safely at Pantex. Furthermore, the DOE has stated that the anticipated cost differences between the sites being considered for these new missions are insignificant relative to the anticipated margin-of-error of the financial analysis. In the absence of major discriminators between the sites, the decision is likely to be very political.

Trent Sisemore
City Commissioner
City of Amarillo
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TXD27

TXD27-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion and MOX facilities at Pantex. Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS and Washington, D.C. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

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Hon. Trent Sisemore
Page 2

The dual-track method of plutonium disposition is the best way for the United States and Russia to permanently reduce the amount of weapons grade plutonium in their nuclear stockpiles. This is an important task but it will be a controversial process because of the dedicated efforts of anti-nuclear activists around the globe. While it is my opinion that many of these activists are opposed to anything nuclear, they seem particularly opposed to the use of plutonium as a fuel in nuclear reactors. Keeping this controversy in mind, it is important for the Department to develop a program that has broad ranging support among Democrats, Republicans, state leaders, local officials, Indian tribes, and labor unions in many states to assure that this important function gets the funding in Congress necessary to carry out the program. Pantex offers strong, bipartisan support from local, state and federal officeholders and the labor movement.

2

The Department has already chosen the Savannah River Site in South Carolina for the important task of immobilizing so called "non-pit" plutonium. In addition South Carolina has been chosen to produce tritium for weapons in the future. Since South Carolina has already received a great deal of new work, the Department should now place some new missions at Pantex. The powerful support of the Texas Congressional delegation will be crucial in getting this program funded. I encourage you to solidify that support by naming Pantex as the preferred alternative site for the pit disassembly and conversion and MOX fuel missions.

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Thank you for the chance to be heard on this issue.



Trent Sisemore
City Commissioner
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TXD27

TXD27-2

DOE Policy

DOE acknowledges the commentor's support for the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again. The U.S. Congress is supportive of DOE's efforts to implement U.S. nonproliferation policy.

TXD27-3

Alternatives

As indicated in the revised Section 1.6, SRS is preferred for the proposed surplus plutonium disposition facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure.



AMARILLO ASSOCIATION OF REALTORS®, INC.

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(806) 358-7736 • Fax (806) 359-4140

RESOLUTION

Whereas, the Department of Energy is seeking comments on the Surplus Plutonium Disposition Environmental Impact Statement; and

Whereas, the Secretary of Energy should name the Pantex Plant as the preferred site for the Pit Disassembly and Conversion Facility in the final Surplus Plutonium Disposition Environmental Impact Statement,

NOW THEREFORE,

We, the Board of Directors of the Amarillo Association of REALTORS® which represents over 500 members, hereby unanimously support the Pantex Plant in Texas as the Department of Energy's location for the Pit Disassembly and Conversion Facility provided such missions are done in a safe and environmentally-friendly manner.

As REALTORS®, we believe the Pantex Plant is the preferred site for the Pit Disassembly and Conversion Facility in view of the following facts:

- (1) The primary mission of the Pantex plant is to take apart nuclear weapons as part of the United States' obligations under the START treaties that have been signed with Russia. It makes sense to finish the disarmament mission by converting the pits at Pantex which would require no off-site shipment of the pits, which would then decrease the risk of classified weapons components falling into unfriendly hands.
- (2) For nearly half a century, the employees of Mason & Hanger Corporation have handled and worked with pits without ever exposing the environment or the residents of the Texas Panhandle to any contamination from plutonium. To further enhance employee and public safety, Mason & Hanger has implemented a Voluntary Protection Program and employees at Pantex have full-time union safety officers to whom they can raise safety concerns.
- (3) The security force at Pantex has successfully guarded highly classified weapons components since 1951. Recently, the Pantex guard force was rated the highest in the DOE complex. DOE should protect the highly classified pits at the facility with the best guard force, which is Pantex.
- (4) And finally, repeated public opinion polling has shown support for the Pantex Plant to be in the 80% range among residents of Carson, Potter and Randall Counties. In addition, Pantex has outstanding support from the elected officials representing local governments in the area around the facility and Pantex also enjoys unanimous support from elected officials representing the area in the Texas House and Senate and the United States House and Senate.

The Pantex Plant has played an invaluable role in the United States' history and should be the Department of Energy's location for the Pit Disassembly and Conversion facility.

Approved by the Board of Directors on the 16th day of July 1998,

Randy Jeffers

RANDY JEFFERS, CRB, GRI - PRESIDENT



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TXD51

TXD51-1

Alternatives

DOE acknowledges the commentator's support for siting the pit conversion facility at Pantex. Analyses in Chapter 4 of Volume I indicate that impacts of operating the pit conversion facility on health, safety, and the environment at Pantex would likely be minor. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses (including analyses of transportation risks), technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

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**AMARILLO CHAMBER OF COMMERCE
DAVID WILKS ET AL.
PAGE 1 OF 1**

**A RESOLUTION OF THE AMARILLO CHAMBER OF COMMERCE
BOARD OF DIRECTORS IN SUPPORT OF
PANTEX**

WHEREAS, the Pantex plant currently employs 2869 Amarillo-area residents and puts over \$200 million directly into our area, and is responsible for about one out of every ten Amarillo-area jobs

WHEREAS, Pantex has outstanding support from the residents in the area. Pantex enjoys strong support from local and state elected officials and the Texas congressional delegation. Pantex shows 80% support among area residents.

WHEREAS, Pantex employees have more experience in handling plutonium pits than any other site in the nuclear weapons complex.

WHEREAS, Pantex requires no off-site shipment of pits, decreasing the risk of classified weapons parts falling into unfriendly hands.

WHEREAS, Pantex has more than adequate storage space for converting plutonium.

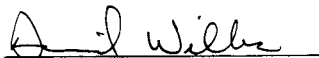
WHEREAS, Pantex guard force is the highest rated in the nuclear weapons complex. Pantex has an outstanding safety record. The employees at Pantex have full-time union safety officers to whom they can raise safety concerns, and Mason & Hanger Corporation has implemented a Voluntary Protection Program to further enhance employee and public safety.

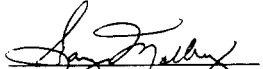
WHEREAS, Pantex employees have safely handled, worked with, and stored pits. The Savannah River Site has a history of radioactive contamination of the environment.

NOW, THEREFORE, BE IT RESOLVED that the Amarillo Chamber of Commerce Board of Directors supports the disassembly and conversion of nuclear weapons plutonium components (pits) program to be assigned to the Pantex plant.

BE IT FUTHER RESOLVED that the Amarillo Chamber of Commerce encourages the Texas Congressional Delegation to continue to support and work toward this goal.

ADOPTED this 10th day of August, 1998


David Wilks, Chairman of the Board


Gary Molberg, President & CEO

TXD50

TXD50-1

Alternatives

DOE acknowledges the commentors' support for siting the pit conversion facility at Pantex. Analyses in Chapter 4 of Volume I indicate that impacts of operating the pit conversion facility on health, safety, and the environment at Pantex would likely be minor. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses (including analyses of transportation risks), technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

AMARILLO COLLEGE
M. KAREN RUDDY
PAGE 1 OF 2

To: U.S. Department of Energy
From: Dr. M. Karen Ruddy, Director of the Electronic Resource Library (ERL) Project
 at Amarillo College found at <http://plutonium-erl.actx.edu>
Date: August 27, 1998
RE: Comments on the Pantex Missions

Dear Sir or Madam:

I believe that this country does indeed face a clear and present danger in the fact that plutonium disposition and waste materials in our environment need to be addressed. The issues need to be based on sound and reliable scientific and technical research (an exemplary effort in Amarillo is the work being carried on through the Amarillo National Resource Center for Plutonium).

I commend the DOE for the policy of openness over the last five or six years. I deal with the plutonium literature daily in my role as Director of the Electronic Resource Library - a library dedicated to the scientific and technical study of plutonium - use, disposition, storage, transportation, health policy and history, and I know that most of the environmental problems in regard to the USDOE policies have come about because of the Cold War legacy.

I also believe that the future energy source in the world is going to be nuclear and believe any decisions made today must keep that reality in mind. Ralph Nader used to be right, now he is old and confused.

I deplore the representation in the Amarillo meetings of the "left-over-hippies" who have no right to represent the majority of the citizens in Amarillo and the Panhandle of Texas. I think it is immoral for the areas that the government has poured money into over the years (Yucca Mt. in Nevada for example) to now be against the deployment of these areas to serve their purpose. I hope you disregard their comments and follow scientific and technical research to make your decisions.

Mr. Richardson was here in Amarillo yesterday and I wish I could have met him. I am comforted that he is the new Secretary of Energy and believe he will make the hard decisions for the good of all.

We (the Electronic Resource Library (ERL)) are collaborating with OSTI to digitize paper documents that they provide to us and we hope to acquire a microfiche scanning machine through a grant to the IMLS program in the Executive Office. We will be able to then digitize the DOE OSTI microfiche collections and retrieve documents stored only on that media.

We serve Pantex, Amarillo College, the Amarillo and Panhandle community and the researchers and scientists at UT, A&M and Texas Tech through the ERL services and resources and are proud to be part of the great effort to help our country as Pantex has done in the past.

FD151

FD151-1

Alternatives

DOE acknowledges the commentor's support of DOE and its surplus plutonium disposition program.

We collaborate with Los Alamos, with the Lovelace Institute, with the FOIA program, the DOE Reading Room program (interactively with the one here at Amarillo College) and with the WIPP site through other regional community colleges (i.e. New Mexico Junior College in Hobbs, NM) to obtain plutonium-related documents and joint grant proposals such as the IMLS (Institute of Museums and Library Services).

I believe that additional missions should come to Pantex for the following reasons:

1. You have incredible community support in Amarillo and surrounding areas.
2. The workforce is highly skilled in this area due to the past and present programs at Amarillo College (attested to by the recent announcement that Bell Helicopter is going to build their new aircraft here in Amarillo).
3. The pits are already here and as I understand the ARIES (Advanced Recovery and Integrated Extraction System) process, it includes "nuclear weapons dismantlement, reduction, and processing with minimal additions to the nuclear waste stream." This quote comes from a document found in the Electronic Resource Library collection.
4. The Pantex solution would meet the SPD-EIS mission of reducing the threat of nuclear weapons and the proliferation threat by avoiding transportation of pits in their "weapons-ready" form.
5. Spreading the dis-assembly program around (i.e. So. Carolina, Texas, New Mexico) would garner more support for your ultimate programs of storage and disposition.
6. Cost is turning out to be a non discriminating factor in the location decision.
7. The Amarillo National Resource Center for Plutonium (funds the ERL project through competitive grants) is a strategic social, political, educational, and research variable in this area - as in just three short years, the ANRCP has helped "thinking and reasoning" people in this area sort through the mire and confusion of exponentially exploding information to get to the facts, be more assured and make better decisions.
8. The Texas Energy Conservation program environmentally monitors the Pantex operation and helps ensure a safe and environmentally sound operation.
9. The safety and security record of Pantex.
10. Most important, I believe we must ACT SOON on plutonium disposition with all the ramifications in Russia and the rest of the world - trusting that you in the "drivers seat" of this great mission have secured our national future and act with the knowledge that plutonium must indeed be turned into plowshares for "planting and harvesting" of the energy needs of the future.

Thank you for this opportunity to comment on this potential program. We love our country, support our government and want to work toward world peace and prosperity.

Sincerely,
M. Karen Ruddy, Ph.D.
Director, Electronic Resource Library Project at Amarillo College
Amarillo College
Amarillo, TX 79189
(806) 371-5148 office
e-mail: mkruddy@actx.edu

FD151

FD151-2

Alternatives

DOE acknowledges the commentor's support of expanded missions at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses (including analyses of transportation risks), technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

Amarillo Economic Development Corporation

Comments of Debra Ballou Regarding the DOE Surplus Plutonium Disposition Draft Environmental Impact Statement

My concern today is with our area's future. While I am proud of our area's accomplishments in the field of economic development, I am still concerned with the long-term future of Pantex. Pantex is such a large force in our local economy that negative impacts from Pantex can essentially take away the gains we may make in other areas.

In essence, if the AEDC brings a new employer to town it may be like taking a step forward. However, if Pantex fails to grow, it may be like taking two steps backward. One step forward and two steps backward is no way to get where you want to go.

Pantex has been a great employer in the Texas panhandle for many years. The spin off of Pantex dollars in the local economy provides employment opportunities in all sectors of the economy. The jobs at Pantex and the skilled service jobs that result in the economy are the kind of opportunities that keep people who are raised in Amarillo from taking their skills to larger metro areas where jobs are abundant. We cannot afford to take two steps back for every one forward.

Pantex has operated safely for many years, and its excellent track record should weigh heavily in the decision making on the location for plutonium disposition missions. This area, and its elected officials at all levels, support Pantex overwhelmingly. Considering this area's strong support for Pantex and the good fit between these missions and Pantex's current mission, I strongly urge the Secretary of Energy to choose Pantex for Pit Disassembly and Conversion and MOX Fuel Manufacturing.

Debra Ballou
Secretary, Board of Directors
Amarillo Economic Development Corporation
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600 S. Tyler Street
Amarillo, TX 79101
(806) 379-6411

TXD53

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2

TXD53-1

Other

DOE acknowledges the commentor's support of expanded missions at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

TXD53-2

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion and MOX facilities at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

Amarillo Economic Development Corporation

Comments of Michael Bourn Regarding the DOE Surplus Plutonium Disposition Draft Environmental Impact Statement

The Amarillo Economic Development Corporation is dedicated to expanding and diversifying the economy in the Amarillo area. We focus on basic employers, that is employers who derive their income from outside of our economic region. We have assisted many local basic employers and we continue to recruit new basic employers to our community. Because of our extensive work with hundreds of existing businesses and those that have considered Amarillo over the past eight years, we have gathered extensive, detailed knowledge of our area's business climate.

Beyond the quantitative measures such as our very low utility costs, affordable and available labor, and low cost of living lies the real key to this region's success – we have a truly outstanding workforce. As mentioned, the quality of our workforce transcends the quantitatively measurable. Nevertheless, our quality workforce is very real. Recently, Bell Helicopter announced plans to locate the assembly plant for the V-22 Osprey Tiltrotor Aircraft in Amarillo. In announcing that decision, one of the key factors mentioned was the great skill of our workforce. But Bell did not make that decision just based on our word, they had twenty years' experience with a facility in Amarillo from the late 1960s to the late 1980s.

The Department of Energy should likewise recognize the skill of Amarillo's workforce when choosing its location for plutonium disposition missions. And the disassembly of plutonium pits should rightfully be seen as a logical extension of the weapons disassembly work already performed by the highly skilled workers at Pantex. The MOX mission also makes sense to be performed within the high security areas at Pantex.

Michael R. Bourn
Executive Director
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TXD30

TXD30-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion and MOX facilities at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

AMARILLO ECONOMIC DEVELOPMENT CORPORATION
MICHAEL R. BOURN
PAGE 2 OF 2

Mr. Michael R. Bourn
Page 2

The controversial aspect of using plutonium as a fuel should also be considered. As we look at our neighbors to the west who are trying to open the WIPP site, we can see that political controversy can cause enormous delays in scientifically sound projects. While I believe the MOX program to be technically sound and the best policy for the United States, I also believe that the current timetable for implementation of MOX manufacturing is not realistic. The program could be delayed for years over political controversy regarding our nation's policy toward nuclear energy.

Given the likelihood of delays in the MOX program, the DOE should take an affirmative step in demilitarizing its surplus weapons components by putting the Pit Disassembly and Conversion Facility into operation as quickly as can safely be done. This work can be done best, and with the least likelihood of political delays, at the Pantex Plant. I therefore urge the Secretary of Energy to name Pantex as the sole preferred alternative for Pit Disassembly and Conversion. Furthermore, I would ask that Secretary Richardson to re-examine the decision made by Secretary Peña to locate the MOX facility at the Savannah River Site. In light of the controversy likely to surround the MOX program, a final decision on site location for that facility should be made after the site for the pit disassembly mission has already been determined.

Thank you for the chance to make comments on this very important issue.

Michael R. Bourn
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TXD30

TXD30-2

DOE Policy

DOE acknowledges the commentor's concern over potential controversy surrounding MOX fuel fabrication. The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. Converting the surplus plutonium into MOX fuel and using it in domestic, commercial reactors is an effective way to accomplish this.

Further, selection of the disposition technology (immobilization or MOX approach) should not impact the pace of pit declassification. Pit declassification would likely depend on the agreements reached with Russia. In late July 1998, Vice President Gore and Russian Prime Minister Sergei Kiriyenko signed a 5-year agreement to provide the scientific and technical basis for decisions concerning how surplus plutonium will be managed. This agreement enables the two countries to explore mutually acceptable strategies for safeguarding and dispositioning surplus plutonium.

As indicated in the revised Section 1.6, SRS is preferred for the proposed surplus plutonium disposition facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure.

Amarillo Economic Development Corporation

Comments of Gilbert Guzman Regarding the DOE Surplus Plutonium Disposition Draft Environmental Impact Statement

Thank you for the chance to express the views of the Amarillo Economic Development Corporation regarding the surplus plutonium missions being considered for Pantex. The Amarillo Economic Development Corporation (AEDC) serves as the development arm of the City of Amarillo local government. The Corporation is funded by a half-cent sales tax and its board is appointed by the elected Mayor and City Commissioners of the City of Amarillo. As a public corporation our activities are carried out with the public interest first and foremost in mind.

Since the early part of this decade, the AEDC has striven to bring new work to the Pantex Plant in order to enhance the manufacturing base of our community. When measured by payroll and economic impact, Pantex is the largest manufacturer in a region comprised of over 50 counties in the Texas panhandle and south plains. Our support for new missions at Pantex is contingent on those missions being done in a manner that does not endanger human health or the environment.

The AEDC strongly supports the selection of Pantex as the site for the Pit Disassembly and Conversion Facility and MOX fuel manufacturing mission. These new missions will provide jobs for Pantex employees who might otherwise not have jobs as the disassembly work the plant now performs winds down. Pantex has been an important part of this community for over 50 years. We hope that with the addition of plutonium disposition missions, Pantex continues to be a major economic presence in this area for the next 50 years.

Gilbert Guzman
President
Amarillo Economic Development Corporation
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(806) 379-6411

TXD31

TXD31-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion and MOX facilities at Pantex. Analyses in Chapter 4 of Volume I indicate that impacts of operating these facilities on health, safety, and the environment at Pantex would likely be minor. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

AMARILLO ECONOMIC DEVELOPMENT CORPORATION
GLENN McMENNAMY
PAGE 1 OF 2

Amarillo Economic Development Corporation

Comments of Glenn McMennamy Regarding the DOE Surplus Plutonium Disposition Draft Environmental Impact Statement

The people of the Texas panhandle are proud of the Pantex plant. They support the current plant operations and the expansion of the activities at Pantex. The payroll of Pantex pours hundreds of millions of dollars into the regional economy. All told, Pantex is responsible for about one out of every 10 jobs in the Amarillo metro area.

Today, you will hear from many people who come from different perspectives. Let me remind you of the overwhelming support the Department of Energy has in this area. Repeated polling has shown more than 80% of the residents of the area support Pantex. Our elected officials at the local, state and national level all support Pantex. Pantex is supported by Republicans, Democrats, Labor and Business. All demographic groups in our area support Pantex. I have been involved in local, state and national politics for many years and few of the candidates or issues with which I have dealt have ever had the broad support that Pantex enjoys.

Strong support is important for the DOE. In years past, the pressures of the Cold War made big budgets standard for the Department. In the post-Cold War era, the DOE budget receives an enormous amount of scrutiny. Different sites in the nuclear weapons complex have been reduced to fighting one another for new work and even for funding for the cleanup of heavily contaminated sites in Idaho, Colorado, Washington, and South Carolina. With all this budgetary scrutiny the DOE should seek the help of its political friends.

Glenn McMennamy
 Vice President
 Amarillo Economic Development Corporation
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TXD33

TXD33-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at Pantex, as well as the observations regarding broad political and community support. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

AMARILLO ECONOMIC DEVELOPMENT CORPORATION
GLENN McMENNAMY
PAGE 2 OF 2

Mr. Glenn McMennamy
Page 2

The Texas congressional delegation overwhelmingly supports the expansion of Pantex. The Governor and Lt. Governor of Texas support the expansion of Pantex. The AFL-CIO supports the expansion of Pantex.

These are very important constituencies to the Department of Energy. Their will should be carefully considered when deciding where to locate new missions. We know this work will be done in a safe manner. We know we are the right place to perform these missions. We will be very disappointed if the DOE fails to name Pantex as the site for this new work. The Texas congressional delegation will also be very disappointed if Pantex is not selected. I sincerely hope the DOE makes the right choice and decides to locate these new missions in Texas.

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Glenn McMennamy
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TXD33

AMARILLO ECONOMIC DEVELOPMENT CORPORATION
GEORGE RAFFKIND
PAGE 1 OF 2

Amarillo Economic Development Corporation

**Comments of George Raffkind Regarding the DOE Surplus
Plutonium Disposition Draft Environmental Impact Statement**

I appreciate the chance to speak with you today about the draft Environmental Impact Statement on Surplus Plutonium Disposition. The Amarillo Economic Development Corporation (AEDC) has worked for years to try to bring new work to Pantex. We have always insisted, and continue to insist, that new work coming to Pantex be environmentally sound and a good "fit" with the existing missions. The Pit Disassembly and Conversion and MOX fuel missions meet both those criteria. Therefore, I strongly encourage the Secretary of Energy to name Pantex as the sole preferred alternative for these plutonium disposition missions.

As a retailer in Amarillo, I understand the profound impact of agricultural income on the entire economy of this region. While I am not directly involved in agriculture, I know that my business' sales decline when times are hard for farmers and ranchers. I also know that for more than half-a-century, the presence of Pantex in this area has never led to reduced crop yields or reduced prices for commodity crops or livestock. The economy of all of West Texas is presently feeling the effects of drought and the subsequent decrease in farm and ranch income. Sales growth in the retail sector in Amarillo and surrounding towns has slowed. Even though the airlines are carrying record loads on a national basis, airline loads are down in Amarillo, Lubbock, and Midland. We all recognize that the rural and urban economies of this area are wholly and inextricably linked.

George Raffkind
Member, Board of Directors
Amarillo Economic Development Corporation
Bank One Center, Suite 1503
600 S. Tyler Street
Amarillo, TX 79101
(806) 379-6411

TXD32

TXD32-1

Alternatives

DOE acknowledges the commentator's support for siting the pit conversion and MOX facilities at Pantex. Analyses in Chapter 4 of Volume I indicate that impacts of operating these facilities on health, safety, and the environment at Pantex would likely be minor. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

**AMARILLO ECONOMIC DEVELOPMENT CORPORATION
GEORGE RAFFKIND
PAGE 2 OF 2**

Mr. George Raffkind
Page 2

The proposed new missions at Pantex will lead to economic growth in our area, without harming agriculture. I would not support a project that negatively impacts agriculture, because my own livelihood is affected by the condition of the agricultural sector of the economy. Moreover, the AEDC receives a great deal of sales tax revenue from persons who live in rural areas and shop in Amarillo. We have no intention of growing one part of the economy at the expense of another.

I hope that the Secretary of Energy will keep in mind that the vast majority of the people in Carson, Potter and Randall Counties support agriculture and the Pantex Plant. Most people in this area recognize that both are essential to the well-being of our economy. I urge the Secretary to name Pantex as the sole preferred alternative for Pit Disassembly and Conversion and MOX Fuel Manufacturing.

1

George Raffkind
Member, Board of Directors
Amarillo Economic Development Corporation
Bank One Center, Suite 1503
600 S. Tyler Street
Amarillo, TX 79101
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TXD32

Remarks

For DOE Hearings on Pantex
 August 11, 1998, Amarillo, Texas
 By Garet von Netzer
 Publisher, Amarillo Globe-News

Thank you for allowing me to present these remarks at today's hearing.

My comments are very brief.

They focus on the practical and cost-effective reasons the Pantex Plant should be awarded the mission of disassembly and conversion of nuclear weapons plutonium pits.

First, the pits already are securely stored at the Pantex Plant. The plant's security force is one of the finest paramilitary forces in the world, and it's the highest rated among all the DOE complex facility forces.

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TXD54

TXD54-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

Page Two

Why would the DOE even consider the risks and added expense of transporting plutonium pits to another site?

Second, the Pantex Plant already has the trained and highly qualified workforce to do the disassembly work. Workers at another site would have to be trained and would lack the background available already at the Pantex Plant.

Third, the Pantex plant's track record with handling and storing plutonium pits is proven, over many years, and without incident. In fact, the Pantex Plant has the finest safety and environmental record of all the major DOE sites in the nuclear weapons complex.

Fourth, consider the region's and city's strong support for the Pantex Plant, what it does and how it does

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TXD54

Page Three

it. Polls have shown for many years that more than 8 of 10 people strongly support the Pantex Plant and its role in our national defense.

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These are just some of the reasons why the DOE should locate the disassembly mission at Pantex.

TXD54

AMARILLO HISPANIC CHAMBER OF COMMERCE
GILBERT GUZMAN ET AL.
PAGE 1 OF 1



A RESOLUTION OF THE AMARILLO HISPANIC CHAMBER OF COMMERCE
BOARD OF DIRECTORS IN SUPPORT OF
PANTEX

WHEREAS, the Pantex plant currently employs 2869 Amarillo-area residents and puts \$200 million directly into our area, and is responsible for about one out of every ten Amarillo area jobs.

WHEREAS, the Pantex plant consistently employs Amarillo-area Hispanics at all levels, and consistently promotes minority business procurement opportunities.

WHEREAS, Pantex employees have more experience in handling plutonium pits than any other site in the complex.

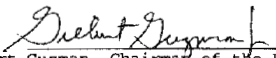
WHEREAS, Pantex has more than adequate storage space for converting plutonium.

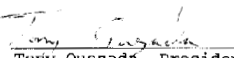
WHEREAS, the Pantex guard force is the highest rated in the DOE complex. Pantex has an outstanding safety record. The employees at Pantex have full-time union safety officers to whom they can raise safety concerns, Mason & Hanger Corporation has implemented a Voluntary Protection Program to further enhance employee and public safety.

WHEREAS, Pantex employees have safely handled, worked with, and stored pits. The Savannah River Site has a history of radioactive contamination of the environment.

NOW, THEREFORE, BE IT RESOLVED that the Amarillo Hispanic Chamber of Commerce Board of Directors support the disassembly and conversion of nuclear weapons plutonium components (pits) program to be assigned to the Pantex plant.

ADOPTED this 11 day of August, 1998


Gilbert Guzman, Chairman of the Board


Tony Quezada, President

TXD36

TXD36-1

Alternatives

DOE acknowledges the commentors' support for siting the pit conversion facility at Pantex. Analyses in Chapter 4 of Volume I indicate that impacts of operating the pit conversion facility on health, safety, and the environment at Pantex would likely be minor. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

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**AMARILLO NATIONAL RESOURCE CENTER FOR PLUTONIUM
RICHARD HARTLEY
PAGE 1 OF 1**



Amarillo National Resource Center for Plutonium
A Highest Education Consortium of The Texas A&M University System, Texas Tech University, and The University of Texas System

Comments of Richard Hartley, Ph.D., Technical Director of the Amarillo National Resource Center for Plutonium, August 11, 1998, at the Amarillo, Texas Public Meeting to discuss the Surplus Plutonium Disposition Draft Environmental Impact Statement (EIS).

It is the Center's mission to provide objective technical advice to the elected officials, regulators, and citizens of Texas on missions, like pit conversion and MOX, that potentially could come to Pantex. This independent technical advice is obtained by using academic experts from the consortium universities in Texas, (A&M, UT, TTU). We also work closely with the agricultural community through the Agriculture Research & Ag Extension Service here in the Panhandle of Texas.

One project the Center was asked to perform by the governor's office ^{was to prepare} ~~presented~~ an independent safety and health analysis of both the plutonium conversion mission and MOX at Pantex and a review of the EIS on behalf of the state of Texas. Our technical team included:

- Dr. Ian Hamilton, Texas A&M University, certified health physicist
- Dr. Randy Charbeneau, University of Texas, professional environmental engineer
- Dr. John Sweeten, agricultural engineer with Ag Extension Service
- Dr. Bobby Stewart, West Texas A&M University, agricultural scientist
- Dr. Jim Rock, Texas A&M, certified industrial hygienists
- Dr. Paul Vaughn, Texas Tech University, agricultural communications specialist
- Dr. James R. Clark, West Texas A&M, Dryland Wheat Institute
- Dr. Nolan Clark, Director, USDA Lab in Bushland, Texas

The results of that independent study were provided to elected officials, Texas regulators, and citizens of Amarillo in Nov. of 1997. The study was conducted by expert professional environmental engineers, certified health physicists, certified industrial hygienists, and agricultural engineers and scientists. The conclusion of that study was that the risks associated with the new missions is comparable to the risk of current operations at Pantex and there are no impacts on water resources, water quality, no impact on soil or air resource.

We were also asked by the governor's office to have the university principal investigators of that study review the draft Surplus Plutonium Disposition Environmental Impact Statement. As in the risk characterization effort presented in November, the researchers find that there are no significant environmental or safety impacts associated with the pit disassembly conversion or MOX mission coming to Pantex.

The ANRCP consortium represents substantial research capabilities that include: 1) 29 Campuses with 24,276 faculty, 259,534 students, and a \$6.5 B combined budget, 2) academic credibility and independent verification, and 3) education based program that supports the Secretary of Energy's education initiative.

600 South Tyler • Suite 800 • Amarillo, TX 79101 • 806-376-5533 • Fax 806-376-5561

TXD43

TXD43-1

Alternatives

DOE acknowledges the findings of the ANRCP's study in support of pit disassembly and conversion and MOX fuel fabrication at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

AMARILLO NATIONAL RESOURCE CENTER FOR PLUTONIUM

K. L. PEDDICORD

PAGE 1 OF 2

**Comments on the
Surplus Plutonium Disposition Draft Environmental Impact Statement**

By

**K. L. Peddicord
Amarillo National Resource Center for Plutonium**

**Presented at the SPDEIS Hearing
Amarillo, Texas
August 11, 1998**

A key element in the surplus plutonium disposition mission will be provisions to allow for either bilateral inspections or multilateral inspection of excess weapons material. These functions contribute to important U.S. policy issues on transparency and openness relating to the disposition of surplus weapons materials both in the United States and the Russian Federation. Bilateral inspection with Russia will be important to develop a mutual level of confidence with the Russians for the entire disposition effort. Such bilateral inspection agreements will also provide confirmation to the U.S. through our inspection of Russian facilities that their efforts are proceeding accordingly. Likewise, potential multilateral inspection under the auspices of the International Atomic Energy Agency in Vienna, Austria, will give assurances to the global community of U.S. leadership in this key endeavor.

While the inspection function will be an ancillary enterprise, it also will have some environmental impact. Accommodations must be made for the facilities, equipment and individuals performing this role. These requirements can presumably be handled in a straightforward way with minimal environmental disruption.

In terms of the inspection function and its relation to the Pit Disassembly and Conversion Facility (PDCF), the input material to the PDCF will be in forms which are classified. However, the output material will be either converted to a metal "hockey puck" or plutonium oxide powder. Subsequent storage of this material will not be of a classified nature and will be subject to international inspection. It is noted that by locating the PDC Facility at the Pantex Plant, the necessary Perimeter Inspection, Detection and Alarm System (PIDAS) is in place to guarantee the security of weapons grade material. Reconfiguration of the existing areas at Pantex could be done in a straightforward way to allow for the inspection requirements while assuring that classified information and material is not compromised.

TXD48

TXD48-1

Nonproliferation

DOE acknowledges the commentator's support for siting the pit conversion facility at Pantex. Once the United States and Russia complete an agreement providing the basis for exchanging classified nuclear information, the procedures to be used for inspection of pits in storage could potentially be adapted to contribute to bilateral monitoring of the pit conversion facility. International monitoring and inspection of the unclassified plutonium would also allow the United States and Russia to demonstrate to each other and to the international community that disposition was being carried out under stringent nonproliferation controls, and that the excess plutonium was not being diverted for reuse in weapons. Accommodation for international inspection of the unclassified material was incorporated in the design of the pit conversion facility, as shown in Figure 2-7. The MOX facility would be a separate function and would only process unclassified materials. Accommodation for international inspection was incorporated in the design of the facility, as shown in Figure 2-14. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

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AMARILLO NATIONAL RESOURCE CENTER FOR PLUTONIUM
K. L. PEDDICORD
PAGE 2 OF 2

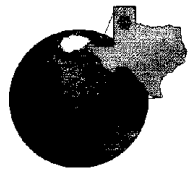
A second aspect of the inspection requirements is also worth noting. As mentioned above, it is the material produced by the PDCF which will be subject to inspection. This precludes the possibility, which has been suggested elsewhere, that a fully integrated facility might be used which will have weapons pits as the input and MOX fuel as the output. Such a facility would not allow for the inspection of the product of the pit disassembly and conversion steps. If it were to be proposed at a Russian installation, presumably such a fully integrated approach with restrictions for the inspection of unclassified material would not be acceptable to the United States. We would want to be able to assure that the MOX fuel coming out was the result of the pits going in. As a result, separation of the pit conversion function from the MOX fuel fabrication will be necessary.

1

The Pantex Plant provides the opportunity for a facility for pit disassembly and conversion which meets, in a straightforward way, the requirements for key bilateral and multilateral inspection while minimizing the number of steps for the handling of sensitive weapons components. The selection of Pantex for the PDC Facility should assure expediency in carrying out U.S. and international nonproliferation goals. Bilateral and IAEA requirements could be more easily facilitated at Pantex thereby implementing pit disassembly and conversion more quickly, entering into an agreement to reach this same result with the Russians, and achieving the critical goal of timeliness which is a key factor in the surplus plutonium disposition mission.

TXD48

AMARILLO NATIONAL RESOURCE CENTER FOR PLUTONIUM
ANGELA L. WOODS
PAGE 1 OF 1



Amarillo National Resource Center for Plutonium
A High Education Consortium of The Texas A&M University System, Texas Tech University, and The University of Texas System

September 8, 1998

Mr. Bert Stevenson
NEPA Compliance Officer
US Department of Energy
PO Box 23786
Washington, DC 20026-3786

Dear Mr. Stevenson:

The Center is pleased to publish in its Center Report Series ANRCP-1998-11, "Routing of Radioactive Shipments With Time-Varying Costs and Curfews," by Laurie A. Bowler and Dr. Hani S. Mahmassani. This is key research that contains vital information for a key audience, and is the type of research the Center supports. | 1

Please do not hesitate to contact us if any further information from the Center would be helpful.

Sincerely,

Angela L. Woods
Technical Editor

Enclosure

600 South Tyler • Suite 800 • Amarillo, TX 79101 • 806-376-5533 • Fax 806-376-5561

MD175

MD175-1

Transportation

DOE appreciates publication of the referenced report by ANRCP.

ANDREW, MICHAEL
PAGE 1 OF 1

Michael Andrew
3512 Rutson
Amarillo, TX 79109

Ph: 806-359-6709
E-Mail: mandrew@arr.net

Title: Year 2000 considerations for the study.

As a concerned taxpayer and one knowledgeable about the Year 2000 crisis I am concerned with the report that lists Pantex and the Savannah River Sites as "equally preferred sites" for the DOE's Pit Disassembly and Conversion Facility.

As a proponent of Pantex and a resident of Amarillo I have seen the proactive approach Pantex has had on environmental impacts and just as critical the appropriate use of our tax dollars. I can not say the same for the Savannah River Site. Specifically I would like to cite two instances of many that drive home my point.

First, Savannah River was recently noted in several national Federal Computing publications as having abandoned a multi million dollar project to modernize their computer systems after spending in excess of \$10 million on the effort. This upgrade was also to provide replacements for a number of systems that will not withstand the Year 2000, which is a little more than a year away.

Second, Savannah River was noted as having major deficiencies meeting dates in several of their systems including the Defense Waste Processing Control Systems. This prompted a special write-up in a recent quarterly report to the Office of Management and Budget from the DOD, noting "the CIO determined that these justifications did not contain compelling reasons for granting exceptions." Savannah Rivers action in part caused a funding restriction for the Environmental Management branch of DOE imposed by OMB to remain in effect.

In summary I do not believe both are "equally" prepared to conduct work on January 1, 2000 much less conduct it safely and efficiently. Recognizing the importance on microprocessors in todays manufacturing processes and the unpredictable effects of ignoring Year 2000 problems I believe that if further evaluations were conducted into the readiness of each facility for the coming millennium that Pantex would be the clear choice.

Respectfully,
Michael Andrew

FD110

FD110-1

Other

DOE acknowledges the commentor's support for siting the pit conversion facility at Pantex. DOE is working diligently to correct the Y2K problems in all of its computer systems and will not operate any facilities subject to such problems. Construction of the pit conversion facility is scheduled to begin in 2001, and operations are scheduled to begin in 2004; therefore, the computer systems for the new facilities would not be affected by the Y2K problem.

As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

<input checked="" type="checkbox"/>	YES!	Keep Texas Panhandle water, air, and soil safe from radioactive pollutants	1
<input checked="" type="checkbox"/>	NO!	To any plutonium processing in the Texas Panhandle	2
<input checked="" type="checkbox"/>	YES!	To minimal handling and processing of plutonium and other nuclear materials	3
<input checked="" type="checkbox"/>	NO!	To converting military plutonium for use in mixed oxide (MOX) fuel	4
Signed: <i>Charge the companies that made the profit for the clean up. Too many cooks spoil the brew.</i>			5

CD1328

3-747

CD1328-1

Alternatives

Sections 4.17 and 4.26.3 describe the potential effects of the maximum impact alternative on air quality, water resources, and soil. These analyses indicate that the impacts of construction and normal operation of the pit conversion and MOX facilities on air, water, and soil at Pantex would likely be minor.

CD1328-2

Alternatives

DOE acknowledges the commentor's opposition to the surplus plutonium disposition program at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

CD1328-3

DOE Policy

The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. DOE is committed to public and worker safety during the construction, operation, and deactivation of the proposed surplus plutonium disposition facilities, and would implement appropriate controls and procedures to ensure compliance with all applicable Federal, State, and local laws, rules, regulations, and requirements.

CD1328-4

MOX Approach

DOE acknowledges the commentor's opposition to the MOX approach to surplus plutonium disposition. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

CD1328-5**Cost**

DOE conducted a competitive procurement process to acquire MOX fuel fabrication and irradiation services. The selected team, DCS, would design, request a license, construct, operate, and deactivate the MOX facility as well as irradiate the MOX fuel in domestic, commercial reactors. However, these activities are subject to the completion of the NEPA process.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS and Washington, D.C.

Yes, I think that the petroleum, the whatever it is, should be located at Pantex. Thank you.

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PD013

PD013-1

Alternatives

DOE acknowledges the commentor's support for the surplus plutonium disposition program at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

Yes, I think they need to get rid of Pantex. It's bad for our crops and bad for our drinking water. Thanks. | 1

PD019

PD019-1

Alternatives

DOE acknowledges the commentor's opposition to the continued operation of the Pantex Plant. It is inferred that this would include opposition to siting any of the proposed surplus plutonium disposition facilities at Pantex. The *Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components* (DOE/EIS-0225, November 1996) was one of many references used during the development of this SPD EIS. Based on the information, analysis, and public comment contained in that EIS, DOE issued a ROD for the continued operation of Pantex. That EIS concluded that the continued operation of Pantex would have either minor or no impacts on the surrounding environment.

Yes, I just wanted to give my input on the deal that's going on | 1
about Pantex. And I'm all for it.

PD020

PD020-1

Alternatives

DOE acknowledges the commentor's support for the surplus plutonium disposition program at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

I want to voice my opinion against Pantex. I think it is a dump about ready to explode and I think it is a hazard for the people that live in this area, not only for the people but for the cattle and the land. I think it needs to go, the sooner the better.

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PD026

PD026-1

Other

DOE acknowledges the commentor's opposition to Pantex. The *Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components* (DOE/EIS-0225, November 1996) was one of many references used during the development of this SPD EIS. That EIS concluded that the continued operation of Pantex would have either minor or no impacts on the surrounding environment. Based on the analysis and related public comment, DOE issued a ROD for the continued operation of Pantex.

Yes, I am an Amarillo resident since 1926 and I want to express my support for the Pantex and everything it has done and been in Amarillo. It has the best safety record of any company that's ever been here. I've toured the plant and enjoyed getting to see what we've heard about for many, many years. I also want to support the use of Amarillo facilities to do the plutonium research and the, something about making the MOX, what ever it is, the disassembly that doesn't make sense to ship it all across the country when it's already here, and you just have my family, all of us, our support and we're proud of you. Thank you for being here.

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PD028

PD028-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.



United States
Department
of Energy

Comment Form

NAME: (Optional) Robert D Baker
ADDRESS: 104 Riveria Trail, Amarillo, Tx 79104
TELEPHONE: (806) 383-4502
E-MAIL: B.BAKER4927@AOL.com

It is my understanding that Savannah River has been announced by DOE to be the preferred location for the MOX fuel conversion site. Also that Savannah River and Pantex are equally preferred for the Pit Disassembly and conversion site. Neither site has experience with MOX fuel fabrication nor Pit Disassembly and conversion. However Pantex has years of experience with the pits during the weapon assembly-disassembly process and pit storage. The source material is primarily located at Pantex. The facilities for both the Pit Disassembly and MOX fuel conversion have to be constructed and brought into operation. Logistically it doesn't seem to be economical to ship the source material to Savannah River for either the Pit Disassembly or MOX fuel. Additionally when the fuel assemblies are fabricated they will have to be shipped around the country to the commercial reactors. Amarillo is centrally located and would seem to be the most economical site for these processes as well as the distribution point for the MOX fuel assemblies.

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TXD25

TXD25-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion and MOX facilities at Pantex. Potential impacts from intrasite transfer of pits would likely be minor if Pantex were chosen as the site for pit disassembly and conversion because pits are currently stored there. However, potential impacts from transportation of plutonium dioxide between the MOX and pit conversion facilities would be minimized if SRS were chosen because SRS is the preferred location for both facilities. Transportation impacts are summarized in Chapter 4 of Volume I and Appendix L. As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures or vehicle emissions are expected. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses (including analyses of transportation risks), technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

Ladies and Gentlemen, Strom Thurmond and the good people of South Carolina would have you believe that Savannah River is the place for the Pit Disassembly and Conversion Facility. This is obviously a political issue and I will address it as such. I will prove to you that Pantex, from a political standpoint, is far and above the only reasonable site for the Pit Assembly and Conversion mission. What is more political than safety at any Nuclear Facility?? The community and country as a whole scrutinize facilities such as Pantex and Savannah River on a continual basis. This has been the case for forty or fifty years. The threat of a radiation disaster is far more political than Strom Thurmond's current and albeit short-lived political agenda for Savannah River. I bring to you and can prove to you in black and white that the workers are healthier and therefore safer than those at Savannah River. I am a physician in the Occupational Medical Department. At Pantex we have a strong, active and progressive preventive medicine program which not only benefits the health of the employee (DOE's greatest asset), but the health of every mission at Pantex. With a strong interactive preventive medicine program, my department has been able to work closely with all aspects of Labor and Management to insure the health and safety of the workers. The health of the workers translates into the safe and healthy accomplishment of the variety of missions at Pantex. The medical department has worked diligently to interact on a continuous basis with every department on the plant. There are frequent visits directly with the workers and first-line supervisors to evaluate and resolve safety and health issues. There is one-on-one communication with the employees and the medical department. If meetings are needed to resolve issues, then there is no hesitation to meet with all players involved. The Medical department is blessed with a wealth of knowledge in preventive and radiation medicine. Our medical director is double boarded in both Preventive Medicine and Occupational Medicine. His area of interest is in radiation protection and he excels in his ability to take care of the employees at Pantex. The entire department is dedicated to the health of the workers and follows Dept. of Energy orders and regulations strictly. From a strong drug and alcohol program to the Graded Cardiac Exercise testing program, the Occupational Medical Dept. can insure you that the workforce is healthy, safe, and far superior to the workforce in Savannah River in their ability to undertake the Pit Disassembly and Conversion Mission. And is not the community and the country's concern over safe and healthy operation of a nuclear facility POLITICAL?? I think so!!! Political fifty years ago, political today, and yes, political years from now. Ladies and gentlemen of DOE, I challenge you to come to our medical dept. at Pantex and see how we run business, and then I challenge you to go to Savannah River and have them show you that their workforce is AS healthy and safe as those at Pantex. And I don't mean lip service, I mean cold, hard, substantiated data. From a political standpoint that holds up now and far into the future, I am convinced that you will find that Pantex is the ONLY politically correct site for the Pit Disassembly and Conversion Mission. Thankyou very much.

1

Kimberly Baker, M.D.
Pantex - Battelle
Box 30020, 12-2
Amarillo TX
79120-0020

TXD06

TXD06-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses (including analyses of human health risks to the public and workers), technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

IF NOT NOW...

140 ARBORWAY, STE. 6, BOSTON, MA 02130-3500 USA
(517) 524-1342 • Fax (517) 524-1347 • contact@ifnotnow.com

To: DOE, Fax 18008205156
From: If Not Now: A Citizens Lobbying Tool, EMail rep-info@ifnotnow.com
Date: Sep 16, 1998 7:04 GMT
Subject: Plutonium Disposal By Burning In Nuclear Reactors

If Not Now is a web-based citizen's lobbying tool. We are forwarding to you a letter from some of your constituents. At the end of this message there is a description of how our service works and how you can respond to your constituents.

Signatures as of Sep 16, 1998:
There were 2 new signers. Total signers to date: 4.

TOPIC: Plutonium Disposal By Burning In Nuclear Reactors

Dear DOE (Fissile Materials Program),

I am writing to oppose the current Department of Energy plan for plutonium disposition, which is based on mixed-oxide (MOX) fuel. MOX fuel is a bad idea. It is unproven technology as far as commercial reactors in the U.S. are concerned. MOX techniques for plutonium disposal are also slower and more expensive than immobilization techniques. In addition, the treatment of plutonium as an energy source sets a dangerous precedent for nuclear proliferation and the development of plutonium fuel economies. It is essential that the DOE do everything possible to discourage this proliferation.

New signers and comments:

Krista Bradford, New York, NY 10033
Danielle Benzinger, Arlington, TX 76006

DESCRIPTION OF IF NOT NOW SERVICE

Subscribers use If Not Now (www.ifnotnow.com) to get information about political and social issues of concern to them. The service also enables them to sign letters about these topics, which we then forward in consolidated form to officials such as yourself. It is important to emphasize that our subscriber list is authenticated through credit card verification, and only those signers who belong to your specific constituency are included in the signature list that you receive.

FD312

FD312-1

MOX Approach

DOE acknowledges the commentor's opposition to the MOX approach to surplus plutonium disposition. While it is true MOX fuel has not been produced or used commercially in the U.S., it has been produced and used in Western Europe. MOX fuel fabrication is not a new technology. This experience would be used for disposition of the U.S. surplus plutonium. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

Any difference between the cost of the hybrid approach and that of the immobilization-only approach would be marginal. Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS and Washington, D.C.



140 ARBORWAY, STE. 6, BOSTON, MA 02130-3522 USA
(617) 524-1342 • fax (617) 524-1347 • contact@ifnotnow.com

An important feature of If Not Now is that we follow up on every action letter that we send, and we report how representatives, officials and others have acted on the issue. We also provide you with the opportunity to respond to your constituents (via a password-protected web server, to ensure that only legitimate responses are posted). Follow the directions below. Your letter will be posted without editing; your constituents will be able to view your response when they check the results of that action. (We regret that we cannot process responses received via fax or US mail.) We strongly encourage you to send us a response! Our subscribers are active, involved citizens who want to hear from you.

To respond to an action letter: fill out the form at <http://www.ifnotnow.com/respond.html> -- you will need to use your special key: PeeTJlWV. This key is valid for one-time use only. Please send questions or comments via email to: rep-info@ifnotnow.com.

FD312

Yes, this is George Buckenal, and I live in Amarillo. It's 3:00 on Monday afternoon the 17th of August and I want to call and let you know that I would much support the pit disassembly work that is being considered for Pantex. This is a needed program at Pantex and for the area. I know that we have been a great support in the past for Pantex out of Amarillo and we certainly would continue to be so. But we need that here in Amarillo for the jobs it would bring to Amarillo and also the work force could certainly utilize the extra income that would come out of that. But we would certainly support the pit disassembly work being considered. I wish you'd please bring it to Amarillo. Thank you very much.

1

PD027

PD027-1**Alternatives**

DOE acknowledges the commentor's support for siting the pit conversion facility at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

This is Patty Buckenal and I live in Amarillo, TX and I would like to state for the record that I support the pit disassembly work going to the Pantex Plant here in Amarillo. Thank you.

1

PD029

PD029-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.



August 11, 1998

U.S. Department of Energy
Office of Fissile Materials Disposition
MD-4 Forrestal Building
1000 Independence Ave. SW
Washington, DC 20585

Dear Sirs,

I would like to take this opportunity to express my feelings about the location of the disassembly and conversion of nuclear weapons plutonium components ("pits") at the Amarillo Pantex plant. As a business owner and a citizen of Amarillo, I am totally in support of this function and hope you will consider the effort and the history of the Pantex plant in your decision making process for this site.

1

Sincerely,

Dennis Claunch
President

2400 West 7th • Amarillo, Texas 79106 • (806) 374-6262 • FAX (806) 374-7474 • 1-800-657-7131

FD149

FD149-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

3205 Kingston Rd
Amarillo Texas 79106
8/11/98

To Whom It May concern:

I favor the retention and development of the Pantex facility at the present location for the following reasons:

First, I think the relocation of the facilities would be an unnecessary cost to both the taxpayer and the employees of the plant. We do not need to spend the money on non-productive activities.

Second, I believe that the Pantex plant and the City of Amarillo have enjoyed many years of mutual benefit. The folk at the plant are desirable citizens and have a good work ethic.

Third, the central location of the plant, geographically, would discourage possible terrorist attacks yet is easily accessible by Interstate highways, railroad, and airways.

Charles A. Campbell

TXD22

TXD22-1

Alternatives

DOE acknowledges the commentator's support for the surplus plutonium disposition program at Pantex, which does not entail the relocation of any existing Pantex facilities. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

1

3205 Kingston Rd.
Amarillo, Tx. 79106
8/11/98

To Whom It May Concern:

I am a long-time resident of Amarillo and do favor the retention and development of the Pantex Plant at the present location for the following reasons:

1. The saving in money and effort to all concerned.
2. The geographically central location would aid in security of the plant.
3. The excellent transportation facilities (air ways, railroads, and highways)
4. The positive impact upon the economy of Amarillo.
5. The vast majority favor the present location in spite of the loud clamor of a few special interest groups.

Sincerely yours,
Helen Campbell

TXD23

TXD23-1

Alternatives

DOE acknowledges the commentor's support for the surplus plutonium disposition program at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.



United States
Department
of Energy

Comment Form

NAME: (Optional) JAMES N. BROOKES
ADDRESS: 702 S. MADISON
TELEPHONE: (802) 373 4574
E-MAIL: UBC665@AOL-NET

I am a carpenter and the business representative for the Carpenters Union Local 665. I represent 150 Carpenters and Millwrights in the Texas Panhandle. We currently work at Pantex and in the plant for contractors who build and remodel buildings. My members and I have personal experience as to safety and knowledge of handling the pits. I am for the pit conversion process to be done at Pantex. I am confident this process can be done safely and securely here at Pantex.

Please consider this comment as a plea for Pantex to be the selected site.

Thank You

James N. Brookes
Carpenters Union 665
Amarillo Texas 79101

TXD07

TXD07-1

Alternatives

DOE acknowledges the commentator's support for siting the pit conversion facility at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding the facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

CATTLE COMPANY
JAY O'BRIEN
PAGE 1 OF 1

Ninia Bivins
 President

Jay O'Brien
 Managing Partner



CATTLE COMPANY
 Box 15305
 Amarillo, Texas 79105

August 16, 1998

U.S. Department of Energy
 Office of Fissile Materials Disposition

Sirs:

As the manager/operator of an 80,000 acre ranch twenty miles north west of Pantex and another 160,000 acre ranch 60 miles south east of Pantex and the owner of a 45,000 acre ranch 60 miles east of Pantex, I have a vested interest in maintaining the quality, as well as the perception, of quality of agricultural products produced in the Panhandle. Chernobyl was a catastrophe because of the radiation, but also because it happened in Russia's bread basket.

As a member of the National Cattlemen's Beef Association's Industry Planning Group, I can tell you that beef prices are impacted more by perception of food safety than by fact. Pantex is within a few miles of IBP's large beef processing plant, in the center of an area that produces ¼ of the nations beef and within a few hundred feet of the Ogallala aquifer, which waters the nations grain supply.

There has to be a better place to put a facility dealing with deadly hazardous materials than on the incredibly small Pantex facility. Please consider the perception of food safety as you make your decision.

Sincerely,

Jay O'Brien

e-mail Jay@ranches.org

(806) 376-4147

FD109

FD109-1

Alternatives

DOE acknowledges the commentor's opposition to siting the proposed surplus plutonium disposition facilities at Pantex. The accidents analyzed for the proposed facilities are presented in detail in Appendix K, and the consequences are summarized by alternative in Chapter 4 of Volume I. It is impossible for DOE to predict how one of these accidents would be perceived by potential consumers of agricultural products from the Pantex. In the event of a severe accident, DOE would promptly take steps to interdict and contain any offsite contamination. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses (including analyses of facility accidents and the relative size of the site), technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

I have worked at the plant for six years. I worked in the construction industry before that. I can honestly say this is the safest place I have ever worked at.

1

WD010

WD010-1

Alternatives

DOE acknowledges the commentor's support. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

STATEMENT REGARDING PIT DISASSEMBLY AND CONVERSION FACILITY LOCATION**AT PANTEX**

My name is Carlton Clemens and I have been in the Real Estate business in Amarillo for the past 34 years. In those years of business in the Amarillo community, I have met and worked with a large cross-section of residents, and the vast majority of those people have been strong supporters of Pantex. We long term residents are confident that the Plant is operated in a manner that places safety far above all other considerations, and I am happy to say that my children and my grandchildren are residents of Amarillo and I never have had a concern with Pantex being one of our neighbors.

If I had the slightest concern over the safe operations at Pantex, I would pack my family and leave Amarillo as fast as I could. But that is not the case. I have enjoyed living in Amarillo for the past 34 years, confident that my family and I have chosen a community that is safe, progressive, and supportive of an installation that produces weapons to keep our country strong.

As a veteran and rational citizen of these United States, I believe that PITS should be demilitarized as quickly as possible. The competition between Pantex and Savannah River Plants for the PIT conversion facility seems to be a waste of time and tax payer money since the PITS are already at Pantex and can more safely be converted than be shipped half way across the country to do the same thing. It just does not make sense to go to the extra expense and effort to satisfy the whims of politicians.

TXD44

TXD44-1**Alternatives**

DOE acknowledges the commentor's support for siting the pit conversion facility at Pantex. DOE agrees that the surplus plutonium pits should be disassembled and converted in a timely manner. SRS employees and employees at all of the candidate sites are considered qualified to support the surplus plutonium disposition program. It is understood that at any of the sites there will have to be a training period since these facilities would require new processes and skills. DOE plans to move ahead with the program as quickly as possible, given the constraints of the U.S. agreements with Russia.


Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS and Washington, D.C. Decisions on future missions related to the surplus plutonium disposition program at Pantex will be based on environmental analyses (including analyses of transportation risks), technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

Both Pantex and Savannah River have trained technicians who are certified to perform the work that is required and no site can claim an advantage in the number of trained workers. Pantex, however, can claim the highest work ethic of any DOE installation and is represented by a strong, well managed and highly respected labor union — a statement that the Non-Union Savannah River Site cannot claim.

I would like to remind you that the fine employees at Pantex have more experience in handling pits than any other site in the DOE complex. The DOE should not place classified weapons components in the hands of employees at the Savannah River Site who have extremely limited experience in dealing with PITS.

Thank you for your consideration, and I am confident that after you review all the FACTS in this important task, you will find that Pantex is the clear choice for the PIT Disassembly and Conversion Facility!

Thank you sincerely for your time.


Carlton Clemens

August 11, 1998

TXD44

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We have had a safe and long history of handling plutonium. People in Amarillo back up the DOE and this will bring jobs to Amarillo. We need Pantex here and I totally support this.

1

WD014

WD014-1

Alternatives

DOE acknowledges the commentor's support for the surplus plutonium disposition program at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

3805 Overlook Drive
Amarillo, TX 79109
September 11, 1998

U.S. Department of Energy
Office of Fissile Materials Disposition
P.O. Box 23786
Washington, D.C. 20026-3786

Re: Draft Surplus Plutonium Disposition EIS

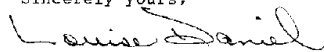
I oppose any form of plutonium processing at the Pantex facility. The Plutonium Pit Disassembly and Conversion facility should be located at Savannah River for the following reasons:

1. The number of sites with plutonium contamination should not be increased. Every site which has been involved in plutonium processing is substantially contaminated. While Pantex has environmental damage, the contaminants do not include plutonium and it should not be introduced.
2. Plutonium processing requires substantial infrastructure which already exists at Savannah River. It is not cost-effective to duplicate facilities at Pantex.
3. The work force at Savannah River is trained and experienced in plutonium processing while the work force at Pantex has been confined to dismantling and storing sealed weapons components. These jobs require different skills. Retraining the Pantex work force would be expensive.
4. It would be cheaper and safer to ship sealed pits from Pantex to Savannah River than to ship disassembled and converted pits.
5. Pantex is located in an agricultural area and is situated over the Ogallala aquifer. The risk to the land and water by plutonium processing of any kind is unacceptable.

The prospect of additional jobs and federal dollars at Pantex does not offset the valid reasons for locating the Plutonium Pit Disassembly and Conversion facility at Savannah River.

In 1996, DOE stated that "plutonium would not be introduced into a site that does not currently have a plutonium infrastructure because of the high cost and complexity of introducing plutonium operation into sites without current capabilities." This was a logical policy in 1996, and it is a logical policy now.

Sincerely yours,



Louise Daniel

MD191

MD191-1

Alternatives

DOE acknowledges the commentor's opposition to siting the pit conversion facility at Pantex. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure.

MD191-2

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Although Pantex may not currently have the extensive plutonium processing infrastructure already present at SRS, analyses in Chapter 4 of Volume I indicate that impacts of construction and normal operation of the proposed facilities on infrastructure, health, safety, and the environment at Pantex would likely be minor. Decisions on the surplus plutonium disposition program at Pantex and SRS will be based on environmental analyses (including analyses of transportation risks), technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

MD191-3

Other

DOE acknowledges the commentor's support of the SRS workforce. Experienced employees would be trained in the specific activities involved with the surplus plutonium disposition program regardless of where the facilities are located.

MD191-4

Transportation

This SPD EIS analyzes shipping surplus plutonium both in the form of pits (Alternative 3) and plutonium dioxide (Alternative 5) from Pantex to SRS. The transportation risks and costs would be slightly higher for Alternative 3 because the required number of SST/SGT shipments are higher for pits

than plutonium dioxide. The radiological risk for both alternatives is about the same.

MD191-5**Water Resources**

DOE acknowledges the commentor's opposition to siting the proposed surplus plutonium disposition facilities at Pantex. The analyses presented in Section 4.26.3.2.2 indicate that there would be no discernible impacts on the quality of water in the Ogallala aquifer from normal operation of these facilities. Other sections show, moreover, that the normal operation of these facilities would likely have minor impacts on human health, agriculture, and livestock: Sections 4.17.1.4 and 4.17.2.4 address the potential radiological and hazardous chemical effects of the maximum-impact alternative on workers and the public at Pantex; Appendix J.3, the potential contamination of agricultural products and livestock, and consumption of these products by persons living within an 80-km (50-mi) radius of Pantex.

DAY, HELEN C. AND JOE R.
PAGE 1 OF 1

Tuesday, August 11, 1998

Department Of Energy
Washington, D.C.

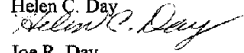
To Whom It May Concern:

My husband and I would like to go on record in support for the pit disassembly and conversion facility at Pantex. We believe that the Pantex Plant in Amarillo has had a very good safety record over the years that it has been in the city.

The city of Amarillo and Pantex have enjoyed a good working relationship for many years, and we would like to see Pantex have a new mission in Amarillo.

Sincerely,

Helen C. Day



Joe R. Day



3509 Hilborn
Amarillo, TX 79109

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TXD16

TXD16-1

Alternatives

DOE acknowledges the commentors' support for siting the pit conversion facility at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.



United States
Department
of Energy

Comment Form

NAME: (Optional) Helen Charlene Day
 ADDRESS: 3509 Kileen Amarillo, Tex. 79109
 TELEPHONE: (806) 353-3252
 E-MAIL:

Additional Comments:

I feel Pantex is the best location for the pit disassembly and conversion because the pits are already in storage at the Amarillo Pantex Plant, and will never have to leave on a long dangerous road trip to Savannah River.

Pantex workers have highly skilled jobs ~~workers~~ with excellent ~~work~~ ethics and would contribute greatly to the new missions.

Pantex has the support of the city leaders, chamber of commerce, leaders of the state and a majority of Parkade citizens.

It is my sincere hope that the location will be chosen where the work can be done safely and correctly. I feel that the Pantex Plant will be that site.

TXD18

TXD18-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at Pantex. Transportation impacts are summarized in Chapter 4 of Volume I and Appendix L. As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures or vehicle emissions are expected under any of the proposed alternatives. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses (including analyses of transportation risks), technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

To whom it may concern,

I would like to affirm my support of the Pit Disassembly and Conversion Facility being located at Pantex Plant. I would like to speak first from the perspective of a Pantex employee. I've worked in the Information Management Division for 16 years and have watched the Plant successfully face a broad range of challenges.

These include changes in legal regulations, changes in mission, and reduced budgets and staffing. In each case, I've watched as the Plant's employees (bargaining, non-bargaining, and management) have rallied to address the critical issues at hand. One of the accomplishments that I am most proud of, is the safety culture at Pantex.

The commitment to safety starts with the General Manager and is formally included as the #1 performance objective of every employee at the Plant. There is a high level of individual ownership in the area of safety and this is clearly evident by the improvements in recordable injuries made over the past 3 years. Safety is integrated into every activity carried out at the Plant.

Another area of excellence at Pantex is environmental stewardship. The staff and program in place at Pantex are *second to none*, as evidenced by the pro-active approach to issues such as aquifer protection. Pantex has consistently been favorably evaluated by 3rd party regulatory agencies -- groups who have nothing to gain from the Plant's continued operation!

From the perspective of a long-term (39 year) resident of Amarillo and the Texas panhandle, I believe the new PDCF mission would be beneficial to the local community -- from an economic, ecological, and social perspective. Obviously, the new mission would provide employment opportunities for local residents - our friends and our families. Also, we know these stable jobs have a ripple effect through the overall economy of the area.

In addition, I would like to remind everyone that the ground water, soil, air, and other natural resources do not solely belong to the area's agriculture industry. Everyone who lives in this area is a benefactor of clean air and water. As a citizen of this area, I am much more concerned about the ground water required and the waste stream created by industries other than Pantex.

As other citizens, I am concerned by the potential for aquifer contamination from the over-use of pesticides and fertilizers, the run-off from stock yards, and the inappropriate use of industrial chemicals. I believe that the work represented by the PDCF creates much less environmental impact to the area than other industries (e.g. hog farms).

The social impact of a business like Pantex is extensive. Employees of this Plant contribute financially to important social programs such as the United Way. In addition, they volunteer an in-numerable amount of their personal time to local schools, churches, and community service groups. Pantex provides employment opportunities for a wide variety of people ranging from High School graduates to Ph.D.'s -- pipe-fitters to scientists. This mixture provides a balanced social climate, with ample room for our children to live and grow.

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TXD17

TXD17-1

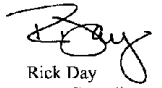
Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at Pantex. Analyses in Chapter 4 of Volume I indicate that impacts of operating the pit conversion facility on health, safety, and the environment at Pantex would likely be minor. Decisions on the surplus plutonium dispositions program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

In summary, the PDCF mission would allow Pantex to continue providing stability to the local community. This is healthy for everyone who wants to continue living in this area. For the area to remain a viable place to live, we can't just rely on more hog farms, truck stops, and prisons. For the area to remain strong, there must be a patch work of businesses with diverse economic resources and business cycles, that employ a wide range of workers, with diverse educational backgrounds and vocational skills.

1

Thanks for your time



Rick Day
6101 Cornell
Amarillo, TX 79109

(806) 358-2717

TXD17



United States
Department
of Energy

Comment Form

NAME: (Optional) Don Dodson
ADDRESS: P.O. Box 32552, Amarillo, TX 79120-2552
TELEPHONE: (806) 355-9161
E-MAIL: _____

I would like to express my support
for Pantex and its mission.

It is only logical that the plutonium pits
are currently located in Amarillo/Pantex
plants that should be location for disassembly

I had the opportunity to visit St. Petersburg
Russia on vacation this summer and it was
my observation that we need to take every
opportunity to reduce Russia's plutonium
inventory and to do it as soon as possible.

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2

TXD10

TXD10-1

Alternatives

DOE acknowledges the commentator's support for siting the pit conversion facility at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

TXD10-2

DOE Policy

DOE acknowledges the commentator's concern regarding the reduction of Russia's plutonium inventory. The United States and Russia recently made progress in the management and disposition of plutonium. In late July 1998, Vice President Gore and Russian Prime Minister Sergei Kiriyenko signed a 5-year agreement to provide the scientific and technical basis for decisions concerning how surplus plutonium will be managed. This agreement enables the two countries to explore mutually acceptable strategies for safeguarding and dispositioning surplus plutonium. During the first week of September 1998, Presidents Clinton and Yeltsin held a Moscow summit and signed a statement of principles with the intention of removing approximately 50 t (55 tons) of plutonium from each country's stockpile.

Understanding the economic dilemma in Russia, the U.S. Congress has appropriated funding for a series of small-scale tests and demonstrations of plutonium disposition technologies jointly conducted by the United States and Russia. For fiscal year 1999 (starting October 1998), Congress further appropriated funding to assist Russia in design and construction of a plutonium conversion facility and a MOX fuel fabrication facility. This funding would not be expended until the presidents of both countries signed a new agreement.

DWORZACK, SARAH
PAGE 1 OF 1

August 10, 1998

U. S. Department of Energy
Office of Fissile Materials Disposition c/o SPDEIS
Box 23786
Washington, DC 20026-3786

REF: Location of Pit Disassembly and Conversion Facility

As an employee at the Pantex Plant in Amarillo, Texas, and a long term resident of the Amarillo, Texas, I want to see the pit conversion work done at Pantex.

This is not just a personal issue. The real consideration should be safety, and of the two possible sites, Pantex is the safer facility. This can easily be confirmed by reviewing existing records for both facilities. At times it has almost seemed like Pantex was overlooked for additional weapons-related work because we are such a clean site.

The safety record is directly attributable to the efforts of plant employees, who have worked very hard through the years to meet or exceed requirements. Even in the years before the creation of the various oversight agencies such as OSHA, the plant functioned safely. The technical skills of the employees who do hands on weapon work is another reason for the excellent record.

The fact that Texas is not as strong politically -- we don't have aggressive PACs or Strom Thurmond fighting for us -- should not be the major deciding point. As a matter of fact, maybe politics should be left out of it altogether.

The Pantex Plant has provided jobs for my family since 1959, and I hope that it will continue to provide employment for me and many others in the future. The Pantex Plant now has thousands of pits stored. Why risk shipping these items to another location? Why increase the cost to do the job?

I sincerely hope that the DOE will look at all issues with an open mind with the major consideration being safety. The second and third considerations should be the technical skill of the employees, and the last consideration should be cost. If these things are considered without PAC or other political influence, the only logical choice is for the pit conversion to be done at the Pantex Plant.

Respectfully submitted,


Sarah Dworzack

MD019

MD019-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at Pantex. DOE believes that all the candidate sites are suitable from an operational, community support, and safety standpoint.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS and Washington, D.C.

Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses (including analyses of transportation risks), technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.



United States
Department
of Energy

Comment Form

NAME: (Optional) Mary Emery
ADDRESS: Box 1988, Bushland, TX 79012
TELEPHONE: (817) 26-5407
E-MAIL: _____

The question I would ask is the following:
Which is more likely to be spread if there is an accident
in transportation: PITS or MOX fuel
If MOX it would seem prudent to have MOX the
shortest distance
If PITS then PITS should be transported the shortest distance
There are more nuclear plants relatively close to
Savannah River than Palo Verde. If MOX (which
is a powder) is more easily released through accident
then it would seem prudent to make the conversion
to MOX at Savannah River

TXD05

TXD05-1

Transportation

The transportation requirements for the surplus plutonium disposition program are evaluated in this SPD EIS. The analysis showed that the accident risk would be slightly higher for plutonium dioxide than pits because the dioxide is in a powder form and therefore subject to more dispersal in an accident. However, this single fact cannot be used as the deciding factor in making a decision on the location of facilities. The number of SST/SGT trips required to transport these two forms and the mileage between facilities are also considered in the overall transportation risk analysis of each alternative. Decisions on the surplus plutonium disposition program will be based on environmental analyses (including analyses of transportation risks), technical and cost reports, national policy and nonproliferation considerations, and public input.

GOOD EVENING.....MY NAME IS INEZ ERWIN.....I AM AN EMPLOYEE AT PANTEX PLANT AND I WAS NOT BUSSED IN TO ATTEND THIS MEETING

.....I FEEL THAT THE WORK IN QUESTION CAN AND SHOULD BE PERFORMED AT PANTEX PLANT.....NOT ONLY ARE WE SKILLED IN OUR JOB PERFORMANCE - AND AS WE DEFINITELY ARE NOT AMATEURS - ADDITIONAL TRAINING WOULD NOT BE A MAJOR FACTORIN FACT, WE HAVE BEEN KNOWN TO TRAIN PERSONNEL FROM OTHER SITES - SUCH AS- SAVANNAH RIVER.....IT WOULD BE COST EFFECTIVE FOR THE MISSION TO BE PLACED AT PANTEX PLANT.....AND AS WE ALL KNOW.....COST IS THE NAME OF THE GAME.....

+ Safety

PANTEX PERSONNEL ARE COMMITTED AS WELL AS BEING DEDICATED TO EXCELLENCE IN THE PERFORMANCE OF SUCH SKILLED ENDEAVORS.

THANK YOU LADIES AND GENTLEMEN FOR YOUR ATTENTION.

TXD34

TXD34-1**Alternatives**

DOE acknowledges the commentor's support for the surplus plutonium disposition program at Pantex. Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS and Washington, D.C. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

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ROGER MULDER
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August 11, 1998

Mr. Bert Stevenson
NEPA Compliance Officer
U.S. Department of Energy
P.O. Box 23786
Washington, D.C. 20026-3786

Dear Mr. Stevenson:

Thank you for the opportunity to comment on the Department of Energy's *Surplus Plutonium Disposition Draft Environmental Impact Statement*. The State of Texas continues to support the Department's decision to pursue a dual track approach for the disposition of surplus plutonium. However, we believe it is in DOE's best interests to proceed in a manner that ensures broad acceptance for ultimate implementation of the dual disposition strategy.

The State of Texas is very proud of the work carried out at the Pantex Plant. Pantex and its thousands of dedicated, highly trained and motivated employees have made this nation a safer place to live, carrying out their primary mission of assembling and disassembling nuclear weapons. This same skilled workforce can apply its proven production culture and commitment to safety to the new mission of plutonium pit disassembly and conversion.

Because current and future personnel of this new mission will require training on new procedures, Pantex has a unique safety advantage over other sites in that its workforce will require training, not re-training. Clearly, it is preferable to train individuals on a new system, rather than re-train personnel who are used to older systems with outdated procedures and requirements.

The highly trained and motivated Pantex workforce has forged a strong relationship with the Amarillo community. Its commitment to maintaining the integrity of the environment, to implementing proper protocols to ensure the safety of workers and the larger community, and to working closely with the local community have earned Pantex the role of a good neighbor. Pantex enjoys considerable community support and enthusiasm for new missions.

TXD39

TXD39-1

Alternatives

DOE acknowledges the commentor's support for the hybrid approach to surplus plutonium disposition and for siting the pit conversion facility at Pantex. Analyses in Chapter 4 of Volume I indicate that impacts of operating the pit conversion facility on health, safety, and the environment at Pantex would likely be minor. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

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This support extends beyond the local community as well. Pantex has ample resources through the state and through the continuing research at the Amarillo National Resource Center for Plutonium to ensure the protection of human health and safety and the environment.

Pantex has another advantage in that it is currently storing more than 8,000 surplus plutonium pits. In addition to the compelling reasons such as the excellent safety culture and production culture already existing here at Pantex, it makes sense to carry out pit disassembly and plutonium conversion where the pits are already located. Selection of Pantex for pit disassembly and conversion should ensure some expediency in carrying out U.S. and international nonproliferation goals.

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In view of Pantex's highly skilled workforce, its sound safety and production cultures, its existing mission of pit storage, and the extensive support which Pantex enjoys from the local community and from the state, I respectfully urge DOE to designate Pantex as the site for pit disassembly and conversion.

Thank you for the opportunity to comment in this important decision making process.

Sincerely,



ROGER MULDER
Director, Pantex Program

TXD39

Specification of "can-in-canister" immobilization as a preferred alternative.

DOE is proposing "can-in-canister" immobilization as its preferred alternative for immobilization. However, the DOE's own reports^{1,2} indicate that "can-in-canister" immobilization does not currently meet the Spent Fuel Standard for long-term nonproliferation resistance. The United States must deploy an effective, accepted plutonium disposition technology or technologies if it wants to encourage international support for plutonium disposition. Duke expects that concurrent action on the part of Russia to dispose of its surplus plutonium will be predicated on the disposition of United States material in a manner that provides high confidence in its resistance to theft, diversion, or re-use.

Recommendations:

1. DOE should consider only those alternatives that meet the Spent Fuel Standard [i.e., mixed oxide (MOX) fuel and homogeneous immobilization] as preferred alternatives.
2. If the DOE pursues deployment of "can-in-canister" immobilization, the DOE should explain how it will demonstrate, in an open, objective, and peer-reviewed process, that the "can-in-canister" plutonium disposition approach will meet this fundamental program requirement - the Spent Fuel Standard.

Quantities of plutonium considered in the EIS for disposal using the two approaches.

The draft EIS states, "Since the ROD was issued, however, DOE has determined that an additional 9 tonnes of low plutonium content materials would require additional processing and would, therefore, be unsuitable for MOX fuel fabrication." DOE alternatives include disposing of a maximum of 33 tonnes of plutonium as MOX fuel, while the alternatives include immobilizing 50 tonnes of surplus plutonium.

DOE has never provided justification that any surplus plutonium is not suitable for MOX use. The DOE has not explained what form this "unsuitable" plutonium is in. The technology descriptions in the draft EIS make it clear that various kinds of processing will be used in the Conversion and Immobilization Facility. It would appear to be possible that some of this processing would render material that is suitable for fabrication into MOX fuel. Finally, the DOE has specified no requirements that the plutonium destined for either MOX fuel or immobilization must satisfy. Therefore, it seems very unlikely that there is any technical basis for any decision about quantities of plutonium that are suitable or unsuitable for either option.

Recommendation:

Given the lack of justification for any decision about quantities of material for the two options, DOE should include the evaluation of a 100% (50 tonne) MOX fuel alternative in the SPD EIS. This is the only way to preserve all appropriate options until the time that the DOE can make a technically defensible evaluation and decision on the allocation of material to the two plutonium disposition approaches.

¹ Sandia National Laboratories, SAND97-8203 - Proliferation Vulnerability Red Team Report, October 1996.

² U. S. Department of Energy, DOE/NN-0007 - Nonproliferation and Arms Control Assessment of Weapons-Usable Fissile Material Storage and Excess Plutonium Disposition Alternatives, January 1997.

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DOE Policy

In the *Nonproliferation and Arms Control Assessment of Weapons-Usable Fissile Material Storage and Excess Plutonium Disposition Alternatives* (DOE/NN-0007, January 1997), DOE identified two potential liabilities of the immobilization alternatives relative to the Spent Fuel Standard. These liabilities involve ensuring sufficient radiation levels and removal-resistant can-in-canister designs. Since that time, DOE has modified the can support structure inside the canisters and has focused its research on the ceramic form of immobilization. As part of the form evaluation process, an independent panel of experts determined (*Letter Report of the Immobilization Technology Peer Review Panel*, from Matthew Bunn to Stephen Cochran, LLNL, August 21, 1997) that the can-in-canister design would meet the Spent Fuel Standard. In addition, NAS is currently conducting studies to confirm the ability of the ceramic can-in-canister immobilization approach to meet the Spent Fuel Standard. DOE is confident that immobilization remains a viable alternative for meeting the nonproliferation goals of the surplus plutonium disposition program.

MD188-17

Feedstock

Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

DOE reviewed the chemical and isotopic composition of the surplus plutonium and determined in the *Storage and Disposition PEIS* ROD that about 8 t (9 tons) of surplus plutonium were not suitable for use in making MOX fuel. Furthermore, DOE has identified an additional 9 t (10 tons) for a total of 17 t (19 tons) that have such a variety of chemical and isotopic compositions that it is more reasonable to immobilize these materials and avert the processing

Fast Flux Test Facility (FFTF).

It is not clear that using the FFTF to destroy nuclear weapons material (plutonium) would be acceptable to the international community if, at the same time, the facility was producing another kind of nuclear weapons material (tritium).

Recommendation:

In discussing the use of the FFTF for a combined plutonium disposition and tritium production mission, DOE should acknowledge that there is a significant nonproliferation issue associated with such a course of action.

Fast Flux Test Facility (FFTF).

The appendix states "If it were determined that MOX fuel (rather than uranium-only fuel) were needed for the FFTF operations, the MOX fuel fabrication alternatives may be eliminated, depending on the amount of surplus plutonium that would be required for tritium production." However, it is our understanding that the capability to fabricate significant quantities of MOX fuel for the FFTF does not currently exist within the DOE complex.

Recommendation:

DOE should acknowledge that use of the FFTF with plutonium fuel in this manner would require the design and construction of a MOX fuel fabrication facility for the FFTF fuel. It is the light water reactor irradiation of MOX fuel that might be eliminated by such a course of action.

Hot cell examinations of irradiated lead assembly fuel.

The environmental impacts in the draft EIS do not appear to include those impacts associated with hot cell examinations. In particular, there is no acknowledgement that the hot cell facilities would be responsible for the disposal of the spent nuclear fuel that results from destructive hot cell examinations.

Recommendation:

DOE should revise the EIS to include these impacts, or note that such impacts are already included in other environmental evaluations.

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complexity that would be added if these materials were made into MOX fuel. The criteria used in this identification included the level of impurities, processing requirements, and the ability to meet the MOX fuel specifications. Therefore, fabricating all 50 t (55 tons) of surplus plutonium into MOX fuel is not considered a reasonable alternative at this time.

While it is possible to use impure plutonium in MOX fuel, the incremental burden to do so is unnecessary and complicates the MOX approach. A description of the types and amounts of plutonium currently planned for disposition can be found in *Feed Materials Planning Basis for Surplus Weapons-Usable Plutonium Disposition* (MD-0013, April 1997).

MD188-18

DOE Policy

As discussed in Section 1.7.4, Appendix D was deleted because none of the proposals to restart FFTF currently consider the use of surplus plutonium as a fuel source. In December 1998, the Secretary of Energy decided that FFTF would not play a role in producing tritium.

MD188-19

DOE Policy

As discussed in Section 1.7.4, Appendix D was deleted because none of the proposals to restart FFTF currently consider the use of surplus plutonium as a fuel source. DOE agrees with the commentor that the LWR irradiation of the MOX fuel could be eliminated should there be a proposal to restart FFTF using surplus plutonium as a fuel source; however, the timeframe in which it could be accomplished is longer than that currently being proposed by the consortium using commercial reactors.

MD188-20

Lead Assemblies

The two DOE sites, ANL-W and ORNL, proposed for postirradiation examination conduct these types of activities on an ongoing basis. Impacts of activities associated with the postirradiation examination of lead assemblies are discussed in Section 4.27.6. Spent fuel after postirradiation examination would be the responsibility of the DOE spent nuclear fuel program. As stated in the ROD for the *DOE Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory*

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Dr. Michael T. McNerney, P.E.
 The University of Texas at Austin
 Austin, TX 78705-2650

COMMENTS ABOUT THE SURPLUS PLUTONIUM

In addition to the oral comments submitted in the public meeting on August 10, 1998, I have the following written comments on the Surplus Plutonium Disposition Draft Environmental Impact Statement.

- Reading the EIS, I noticed that in several areas it declares that all the sites to be considered except Pantex meet certain levels of potential aircraft crash probability. The oral response in the public meeting indicated that Pantex statement was a result of the November 1996 EIS for Continued Operation of the Pantex Plant. My point is that the previous EIS was conducted before the DOE standard for evaluating aircraft crash probability was finalized, and my research indicates that the analysis thoroughly over estimated the types and amount of traffic landing at Amarillo and from errors in the development of the standard related to military aircraft crash rates thoroughly overestimated the likely hood of an aircraft crash into the Pantex site. The point being that the previous analysis that was done is in error and should not be used to exclude Pantex in any way from the new mission and therefore the statement should be amended or removed from the document.
- In support of this assertion that the previous analysis overestimated the aircraft crash probability, I offer the following data:
 - In the previous EIS, the most significant crash probabilities were related to takeoff and landings of military aircraft. The analysis used radar data (RAMS) collected at Amarillo Airport as analyzed by Dr. Lin of Sandia Laboratories.
 - We have reviewed all the RAMS data and rewritten the FORTRAN program that analyzes the tracks to determine high altitude versus landing aircraft and found an order of magnitude reductions in the large military aircraft landing at Amarillo. We reduced the number of unknown category of flight tracks by a factor of three or more. We now have the most accurate database of aircraft operations at Amarillo Airport.
 - Using this database of aircraft traffic and using the DOE standard and support documentation crash rates (Which are also in error on the conservative side) for actual military aircraft types flown into the Amarillo airspace, we determined that the small military rates were 9 and 8 times overstated for zones 4 and 12 respectively. The large military aircraft crash probability were overstated in zones 4 and 12 by 2 and 4 times respectively.
 - Using these new aircraft specific traffic data, the probability of an aircraft crash by the general aviation single engine piston category of aircraft is three and one half times more likely to crash into Pantex than the small military category and 14 times more likely than the large military
 - The DOE standard, which was finalized after the previous EIS, has not been validated by outside review and is overly conservative in all categories. My research has determined that there are significant errors in the adoption of military crash rates. Error where made in the interpretation of Air Force accident descriptions as to classifying landing accidents, interpreting the location data of accidents, and in calculating the number of landings and landing approaches for aircraft types.

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Environmental Restoration and Waste Management Programs Final EIS (DOE/EIS-0203-F, April 1995), interim storage for this type of spent fuel would take place at INEEL before eventual disposal in a potential geologic repository.

MD188-21

Facility Accidents

The oral response provided in the public hearing did not fully answer the question. The *Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components* (DOE/EIS-0225, November 1996) was used to determine the operations of each aircraft type. The other remaining factors were from the DOE standard, *Accident Analysis for Aircraft Crash Into Hazardous Facilities* (DOE-STD-3014-96, October 1996), and calculations from equations in that standard. The aircraft crash evaluation used operations data from the Pantex EIS because it was the best available data at the time of the analysis for this SPD EIS.

In response to the claims about having the “most accurate database of aircraft operations at Amarillo Airport,” until those data are verified by DOE and made available in a published document, the Pantex EIS operations data are considered the best known published operations data for Amarillo Airport. This SPD EIS disregarded any contribution from general aviation aircraft because the proposed surplus plutonium disposition facilities would be designed to withstand a general aviation aircraft impact. Figure 4 in the DOE-STD-3014-96 data document describes at least 68 small military off-runway accidents around the U.S. These crashes are included in the basis for the crash location density function. The arguments for a reduction of the frequency of 9 or more for in-flight crashes are not provided. The analyses are based on DOE-STD-3014-96 and are considered to be appropriate and adequate for the comparison of the alternatives being considered in this EIS.

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- After reviewing the supporting data from all US Air Force crashes from 1979 to 1993, my analysis shows that only one landing crash occurred outside of 4 miles from the runway. In that accident, an F-111 aircraft crashed at nine miles as a result of an unusual situation where one engine was shut down during an emergency approach and the afterburner failed to light on the good engine resulting in the crash. Since all F-111 aircraft have now all been retired from Air Force service it ceases to be a problem and should not constitute a data point in the calculation of crash probability distribution functions for military aircraft.
- There is no data that supports that military aircraft landing accidents have any probability of crash into the Pantex site which is over 10 miles from the Amarillo Runway, let alone be the single highest risk factor.
- The inflight calculated crash rates in the DOE standard as applied to Pantex are overly conservative and I would argue that they should be reduced by a factor of nine or more as applied to the location of Pantex.

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John M. Sweeten, Ph.D., P.E.
 Texas Agricultural Experiment Station
 Texas A&M University Agricultural Research and Extension Center
 Amarillo, TX 79106

At the request of the Amarillo National Resource Center for Plutonium, a consortium of the Texas A & M University System, the University of Texas System, and Texas Tech University, I have reviewed the 4-part document A Surplus Plutonium Disposition Draft Environmental Impact Statement: Summary, Volume I-Part A, Volume I-Part B, and Volume II@, U. S. Department of Energy, Washington, D. C., July, 1998.1,500 p. While my review of the Surplus Plutonium Disposition (SPD) Environmental Impact Statement (EIS) was focused on those parts relating specifically to the Pantex Plant and to the environmental quality assessment and impact considerations, a general review was given also to other locations under consideration.

The analysis of the 23 alternatives articulated and presented for review was thorough and balanced with respect to the various sites under consideration. I understand that some of these alternatives are no longer under consideration subsequent to a DOE recent decision to locate the fuel rod assembly fabrication process using plutonium oxide at Savannah River Site (SRS) which is the point of proposed final utilization in an existing nuclear power plant. This decision constrains the selection of alternatives involving Pantex to only those involving (a) current mission of long-term plutonium pit storage with upgrades, (b) pit disassembly, and (c) pit conversion of Pu into plutonium dioxide, a component along with uranium dioxide of eventual Mixed Oxide (MOX) fuel rods fabricated at SRS. In essence the remaining alternatives involving Pantex are as follows (n=8): Alternatives 1, 4A, 4B, 5A, 5B, 11B, 12C, and 12D.

I do not view Alternative 1 (No Action) as a viable option, in that the estimated half-life of plutonium in its present form is some 24,000 years. This is a long time for governments, militaries and taxpayers to guard and protect from terrorism, accident, environmental and natural resource damage, and human tragedy some 50 metric tons of active fissile material that has commercial value as well as obvious destructive potential. This potential legacy should not be left for future generations of Texans and other Americans. The 1:1 leveraging opportunities with the former Soviets with respect to their disassembled and stored fissile materials would be lost as well. The other 22 alternatives would put all this behind us by the year 2015, or with typical public works delays by the year 2020-2025 at least. The Panhandle, Texas, America and the world then will be a safer place.

So the question really becomes two-fold:

- a) is the presently-proposed suite of technologies adequate to perform the plutonium handling and conversion safely and effectively?; and
- b) is it environmentally secure?

I will defer the former question to the involved experts in nuclear engineering, nuclear physics, chemical engineering, occupational health and safety, and other relevant fields.

Regarding the second question, my involvement over the last 18 months with ANRCP technical staff and a team of experts evaluating and providing risk assessment for the Pu/MOX fuel conversion process, together with my reading of the SPD EIS document itself suggests that, with the data presented so far, the remaining alternatives involving Pantex can be carried out in an environmental secure manner. The probabilities, exposure, and health

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General SPD EIS and NEPA Process

DOE acknowledges the commentor's positions on environmental impacts at Pantex, as well as the interest of the organizations mentioned. The environmental analysis reflected in this SPD EIS involved the consideration of relevant and available information.

Technologies proposed for the disposition of surplus plutonium are described in Sections 2.3 and 2.4; environmental impacts of the implementation of those alternatives, in Chapter 4 of Volume I. As more information becomes available it will be posted to DOE's Web site at <http://www.doe-md.com>.

effect numbers are very, very small. The land area that would be affected by worst-case scenarios involving release of Pu to the environment are very small, contained within site boundaries, and off-site impacts would be practically negligible.

Nevertheless, there is necessary and continuing involvement by agricultural scientists and engineers with the agencies affiliated with the Cooperative Research, Education, and Extension Triangle for the Panhandle (Texas Agricultural Experiment Station, Texas Agricultural Extension Service, West Texas A & M University, USDA-Agricultural Research Service, and Texas Veterinary Medical Diagnostic Laboratory), joined by our colleagues at TAMU-College Station and at the TAES Blacklands Research Center at Temple, in providing new data, information, questions, answers and dialogue from the perspective of agricultural production and processing, including soil/water/plant/animal/wildlife relationships. We are interested as well in impacts on water, soil and air resources from the perspective of rural residents and communities. Our concerns with maintaining the viability of crop, feedlot, range and pasture production systems as part of the human food chain, and of those who operate them, is paramount. The recent, current and future scientific projects with ANRCP sponsorship and involvement reflect those concerns and provide answers that should be taken into account with regard to the present SPD EIS and future plant design and operations. We are available for continuing dialogue and partnerships involving scientific discovery, interpretation, exchange, and education in these areas.

In terms of the EIS document itself, my remarks will be restricted to only a few areas at this time.

***Summary, Section 5.5--**Topics analyzed in the SPD EIS are appropriate: air quality, noise, waste management, socioeconomics, human health risk, facility accidents, transportation, environmental justice, geology and soils, water resources, ecological resources, cultural and paleontological resources, land use and visual resources, and infrastructure. However, agricultural production systems are not addressed for any of the potential sites, all of which sit in or adjacent to extensive crop and livestock production appropriate to the regions.

***Chapter 2. Alternatives for Disposition of Surplus Weapons-Usable Plutonium--**

- Page 2-3-- As noted above, several of these alternatives can be eliminated with recent decisions regarding the SRS mission, namely Alternatives 2, 4A, 4B, 6A, 6B, 6C, 6D, 7A, 7B, 8, 9A, 9B, and 10.
- Pages 2-4 to 2-7--From the maps, every site except Pantex has at least one river running through or adjacent to it.

***Chapter 3. Affected Environment--**

- Section 3.1, **Approach to Defining the Affected Environment**--the Region of Interest (ROI) did not directly include agricultural resources or production practices for any of the candidate sites. If environmental damage were to occur despite safeguards, the public would be very interested in food supply and food chain safety issues, and farmers/livestock producers would be directly affected in terms of restrictions on future production practices or marketing opportunities. These are an important considerations.

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Socioeconomics

Incident-free (normal) releases of radioactivity from the proposed surplus plutonium disposition facilities to the food production chain are explained for each candidate site in Appendix J. Current and future operations at any of the candidate sites are not expected to impact the soil used for agriculture and farming in any regions adjacent to these candidate sites. The potential impacts of the proposed facilities on prime farmlands are also evaluated in the Geology and Soils portions of Section 4.26. All activities would be limited to each of the candidate sites, and any impacts on the surrounding areas would be within Federal, State, and local regulatory limits.

Section 4.26 and Appendix K were revised to discuss potential impacts of radioactive emissions on agriculture and water resources.

MD188-24

Candidate Sites

DOE's preference for siting the MOX facility at SRS is not a decision. The alternatives cited by the commentor remain reasonable alternatives until the SPD EIS ROD is issued. However, DOE eliminated as unreasonable the 8 alternatives that would involve use of portions of Building 221-F with a new annex at SRS for plutonium conversion and immobilization, thereby reducing the number of reasonable alternatives to 15 that are analyzed in the SPD Final EIS. Table 2-1 was revised to reflect the deleted alternatives: 3B, 5B, 6C, 6D, 7B, 9B, 12B, and 12D. Alternative 12C was renamed 12B.

DOE acknowledges the commentor's statement that every candidate site, except Pantex, has at least one river running through or adjacent to it.

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Socioeconomics

Section 3.1 defines the ROI for the affected environment for human health risks to the general public from exposure to airborne contaminant emissions as an area within an 80-km (50-mi) radius of the proposed surplus plutonium disposition facilities. The analyses in Appendix J consider the potential contamination of agricultural products and livestock, and consumption of these products by persons living within an 80-km (50-mi) radius of the

- Section 3.4, Pantex Plant, Pages 3-88 to 3-124--the extensive agricultural production practices and programs within a 9-county area around Pantex nor adjacent to the site were not discussed or data listed. This information was provided to the ANRCP in January 1998 in a contract project final report and needs to be presented or summarized herein. The agricultural data should include: crops (types and acreage), soil management practices, livestock grazing (rangelands and wheat pasture), cattle feedlots including sources of feedstuff supplies, beef slaughtering and processing facilities, and grain storage. Dairies, horses swine, poultry, and other species of relevance are not identified as well. Potential secondary pathways of possible contamination--e.g. non-point source runoff, wind erosion, water erosion, etc.-- are not addressed. Similar information should be provided for all the other candidate sites in the respective sections within the Regions of Interest. For example, fruit, vegetable, cattle and dairy production are prominent in Idaho and Washington state in general vicinity of INEEL and Hansford plants, respectively, and South Carolina is a poultry production state. Also, no mention is made of local management districts for groundwater and surface water resources; these include the Panhandle Ground Water Conservation District No. 3, White Deer, which encompasses an 8-county area including Pantex.

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*Chapter 4, Environmental Consequences--The forgoing comments for Chapter 3 generally apply to this chapter as well.

- Section 4.6, Alternative 4A--Indicates that the air quality impacts will be minimal along with waste management, human health, or water resource risks. Increments added by operation of the pit conversion at Pantex will be non-existent or minimal (Table 4-5 vs. Table 4-58), and resultant site concentrations will be far below EPA or TNRCC ambient air quality standards for most contaminants and below EPA NAAS for PM10 on both an annual and 24-hour averaging time basis.

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candidate sites. The analyses of doses consider bioaccumulation of radioactivity in grain crops, forage, and animals (and the resultant effects on ingestion doses to humans), and all potential dose pathways including direct ingestion, inhalation, external ground exposure, and plume immersion. These analyses indicate that the potential impacts of normal operation of the pit conversion, immobilization, and MOX facilities on agricultural products, livestock, and human health at any of the sites would likely be minor. The analysis takes into account plutonium doses; bioaccumulation of radioactivity in grain crops, forage, and animals (and the resultant effects on ingestion doses to humans); and all potential dose pathways including direct ingestion, inhalation, external ground exposure, and plume immersion. Transience consideration would have a negligible effect on dose results. Although specific agricultural data were not identified for each candidate site in Chapter 3 of Volume I, the 1987 Census of Agriculture was used as the source to generate site-specific data for food production in Appendix J for each of the candidate sites.

Section 3.4.7.2.1 states that Pantex is in the Panhandle Groundwater District 3, which has the authority to require permits and limit the quantity of water withdrawn. Impacts of releases of radioactivity from the proposed facilities at each candidate site on the food production chain are discussed in Appendix K. Section 4.26 and Appendix J were revised to discuss potential impacts of radioactive emissions on agriculture and water resources.

The remainder of this comment is addressed in response MD188-23.

MD188-26

Air Quality and Noise

DOE acknowledges the comment.

***Appendix F, Impact Assessment Methods, and Appendix G, Air Quality--**

- Does not include information for any site concerning:
 - agricultural production practices
 - accidental releases--explosion, fires, spills, etc.
 - dispersion modeling
 - areas affected
 - redistribution of particulates from Pantex by water or wind erosion.

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***Appendix I, Socioeconomics**

- Does not include discussion concerning agricultural production, land use, or rural residents including whether or not they could be affected.

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***Appendix J, Human Health Risks--**

- The agricultural data mentioned (from the 1987 Census of Agriculture) but not shown should be presented for all four sites. This information should be presented in a separate Appendix.
 - Other agricultural data sources or more recent vintage than the Census of Agriculture are readily available as well, from entities such as the State Crop and Livestock Statistical Services, the Cooperative Extension Services (e.g. Texas Agricultural Extension Service), the USDA-Farm Services Agency, etc..
 - Analysis does not appear to take into account Pu doses, transience, or effects on field grain crops, forages, or animals, nor contamination pathways other than direct ingestion.

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The opportunity to review and comment on the SPD EIS document is appreciated. I hope these remarks are useful in strengthening the document and provide the basis for continuing development of greater scientific information regarding the environmental quality for Pantex and other sites in other locations also.

MD188

MD188-27

Air Quality and Noise

There are no changes in agricultural production practices associated with any of the alternatives. The remainder of this comment is addressed in responses MD188-23 and MD188-25.

The accident analyses in this SPD EIS are considered to be bounding and address a representative spectrum of possible operational accidents. No major chemical accidents were identified. As discussed in Appendix K.1.1, additional documentation on hazards and accidents would be developed for each facility during the design and construction process.

Appendixes F, G, J, and K describe the methods used to model air-quality-related impacts, provide the emission rates for each facility and alternative, discuss the areas affected, and the treatment of particle deposition. Because the radiological analysis is concerned with the MEI, the initial deposition of radionuclides and its effect on this individual are analyzed. Appendix J was revised to include expected radiological release quantities from each of the proposed surplus plutonium disposition facilities.

The remainder of this comment is addressed in response MD188-25.

MD188-28

Human Health Risk

Detailed agricultural data for each of the candidate sites are presented in the *Health Risk Data for Storage and Disposition of Weapons-Usable Fissile Materials Programmatic Environmental Impact Statement* (HNUS, October 1996). That data report supports this SPD EIS as well as the *Storage and Disposition PEIS*. A separate appendix is not needed to repeat these data verbatim; the data report is available in DOE public reading rooms. The agricultural data in this EIS are used to estimate the doses to the population in 2010. For these projected doses, DOE considers the data from the 1987 Census of Agriculture to be representative of the areas evaluated. These agricultural data are also consistent with those used for dose assessments in the *Storage and Disposition PEIS*.

The remainder of this comment is addressed in response MD188-25.

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COMMENTS ON COSTS ANALYSIS

The cost analysis is really a summary, so it is very difficult to determine how the numbers were developed.

On p 3-3, the comment is made that the cost to transport the plutonium from Pantex can vary from \$10M to \$15 M. At the top of p. 3-4 the statement is made that there would also be an additional cost of \$69M for repackaging if the PD&CF is not located at Pantex, and this cost is charged to the other facilities. Yet, the operating costs that are estimated for Pantex are among the highest of any of the facilities. Why?

On p 3-8, the design and construction costs of the MOX FFF at Pantex are estimated to be: Design and construction - \$510M; Operating Cost - \$610M; Total Cost - \$1,200M. This mistake is repeated throughout the report. These are figures that should be re-analyzed.

In our work with the S&S teams, they emphasized that the most vulnerable link in the disposition system was probably the SST transportation, and that exposing weapons-grade Pu to transportation rather than material that has already been transformed into a substance less attractive as a target for theft and terrorists would be highly desirable. How was that incorporated into the report?

The report does not allow for a more detailed analysis; however, these observations were made even based on this document.

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MD188-29

Cost Report

Because this comment relates directly to the cost analysis report, it has been forwarded to the cost analysis team for consideration. The *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, is available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS and Washington, D.C.

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RUSSIAN ASPECTS OF THE SPDEIS AND THE SITING OF THE PDCF

Timeliness is the key issue. It has been more than 4 years since the NAS declared the surplus plutonium a "clear and present danger." The United States needs to move quickly to maintain forward movement in Russia. Financing is not the only issue in Russia; they will not disposition unless the U.S. does so as well.

The United States should push for the earliest possible demilitarization of pits. I suggest putting U.S./Russian material under IAEA safeguards, thereby creating "political irreversibility." By doing this, it would show the world that we are serious about NPT commitments. Finally, we should separate demilitarization from the disposition technologies which are likely to experience significant delays due to political issues. Placing the PDCF at Pantex provides the quickest route toward demilitarization.

The U.S. would not look favorably on Russians shipping pits unnecessarily; therefore, we should practice what we preach. There is no reason to ship pits from Pantex to SRS when the pits are already housed at Pantex. It just makes sense to site the PDCF at Pantex.

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MD188

MD188-30

Alternatives

The United States will continue to work with Russia according to agreed-upon paths and timing for surplus plutonium disposition.

Potential transportation impacts of pit disassembly and conversion at Pantex are summarized in Chapter 4 of Volume I and Appendix L. Under any of the proposed alternatives, the risks to the public from the transportation of these materials are small as shown in Table L-6.

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A key element in the surplus plutonium disposition mission will be provisions to allow for either bilateral inspections or multilateral inspection of excess weapons material. These functions contribute to important U.S. policy issues on transparency and openness relating to the disposition of surplus weapons materials both in the United States and the Russian Federation. Bilateral inspection with Russia will be important to develop a mutual level of confidence with the Russians for the entire disposition effort. Such bilateral inspection agreements will also provide confirmation to the U.S. through our inspection of Russian facilities that their efforts are proceeding accordingly. Likewise, potential multilateral inspection under the auspices of the International Atomic Energy Agency in Vienna, Austria, will give assurances to the global community of U.S. leadership in this key endeavor.

While the inspection function will be an ancillary enterprise, it also will have some environmental impact. Accommodations must be made for the facilities, equipment and individuals performing this role. These requirements can presumably be handled in a straightforward way with minimal environmental disruption.

In terms of the inspection function and its relation to the Pit Disassembly and Conversion Facility (PDCF), the input material to the PDCF will be in forms which are classified. However, the output material will be either converted to a metal "hockey puck" or plutonium oxide powder. Subsequent storage of this material will not be of a classified nature and will be subject to international inspection. It is noted that by locating the PDC Facility at the Pantex Plant, the necessary Perimeter Inspection, Detection and Alarm System (PIDAS) is in place to guarantee the security of weapons grade material. Reconfiguration of the existing areas at Pantex could be done in a straightforward way to allow for the inspection requirements while assuring that classified information and material is not compromised.

A second aspect of the inspection requirements is also worth noting. As mentioned above, it is the material produced by the PDCF which will be subject to inspection. This precludes the possibility, which has been suggested elsewhere, that a fully integrated facility might be used which will have weapons pits as the input and MOX fuel as the output. Such a facility would not allow for the inspection of the product of the pit disassembly and conversion steps. If it were to be proposed at a Russian installation, presumably such a fully integrated approach with restrictions for the inspection of unclassified material would not be acceptable to the United States. We would want to be able to assure that the MOX fuel coming out was the result of the pits going in. As a result, separation of the pit conversion function from the MOX fuel fabrication will be necessary.

The Pantex Plant provides the opportunity for a facility for pit disassembly and conversion which meets, in a straightforward way, the requirements for key bilateral and multilateral inspection while minimizing the number of steps for the handling of sensitive weapons components. The selection of Pantex for the PDC Facility should assure expediency in carrying out U.S. and international nonproliferation goals. Bilateral and IAEA requirements could be more easily facilitated at Pantex thereby implementing pit disassembly and conversion more quickly, entering into an agreement to reach this same result with the Russians, and achieving the critical goal of timeliness which is a key factor in the surplus plutonium disposition mission.

MD188-31

Nonproliferation

DOE acknowledges the commentor's support for Pantex, and appreciates the input on existing capabilities at the site. Further, DOE agrees that bilateral monitoring with Russia of the classified plutonium material and international inspection of the unclassified material would give assurances to the global community of U.S. leadership in plutonium disposition. Once the United States and Russia complete an agreement providing the basis for exchanging classified nuclear information, the procedures to be used for inspection of pits in storage could potentially be adapted to contribute to bilateral monitoring of the pit conversion facility. International monitoring and inspection of the unclassified plutonium would also allow the United States and Russia to demonstrate to each other and to the international community that disposition was being carried out under stringent nonproliferation controls, and that the excess plutonium was not being diverted for reuse in weapons.

Accommodation for international inspection of the unclassified material was incorporated in the design of the pit conversion facility, as shown in Figure 2-7. The MOX facility would be a separate function and would only process unclassified materials; accommodation for international inspection was incorporated in the design of that facility, as shown in Figure 2-14.

GENERAL SERVICES COMMISSION
ROGER MULDER
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Because of the public's concern about environment, safety, and health issues associated with Pantex, the Center was asked by the Governor's office to perform an independent safety and health analysis of the plutonium conversion mission and mixed oxide fuel fabrication mission at Pantex. The Center's technical team included:

- Dr. Ian Hamilton, Texas A&M University, certified health physicist
- Dr. Randy Charbeneau, University of Texas, professional environmental engineer
- Dr. John Sweeten, agricultural professional engineer, Resident Director of the Agricultural Research and Extension Center
- Dr. Bobby Stewart, West Texas A&M University, agricultural scientist
- Dr. Nolan Clark, agricultural professional engineer, Director of the USDA Agricultural Research Service, Bushland Texas
- Dr. Jim Rock, Texas A&M, certified industrial hygienist
- Dr. Paul Vaughn, Texas Tech University, agricultural communications specialist

The results of that independent study were provided to elected officials, Texas regulators, and citizens of Amarillo in November of 1997. The study was conducted by the team named above. The study concluded that the risks associated with the new missions are comparable to the risk of current operations at Pantex and there are no impacts on water resources, water quality, soil or air resources.

We were also asked by the Governor's office to have the university principal investigators review the draft Surplus Plutonium Disposition Environmental Impact Statement. As in the risk characterization effort presented in November, the researchers find that there are no significant environmental or safety impacts associated with the pit disassembly conversion or MOX mission coming to Pantex. These results are presented in the following pages.

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ROGER MULDER
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COMPARISON OF RISK CHARACTERIZATION AND SPD EIS

Main points brought out at the Amarillo Public Meetings (August 11, 1998):

- There are no adverse environmental impacts associated with conversion and hence no environmental discriminators between Pantex and SRS (EIS uses the word "modest differences")
 - We will use the expertise and results from the Risk Characterization to validate DOE's EIS that there are no significant environmental impacts of PDCE at Pantex.
- There is no real cost difference between SRS and Pantex for conversion.
- There is definitely a timeliness, radiological dose and transportation issue if it is decided to move all missions to SRS.

1. ANNUAL WATER USAGE

	RISK CHARACTERIZATION (millions of gal./yr.)	EIS (millions of gal./yr.)
Carson County Water Usage	37,000	33,200
Current Pantex Operations	220 (0.6%) (1994)	163 (0.5%) (1995)
Pit Conversion (ARIES)	12.7 (0.03%)	12.7 (0.04%)

Risk Characterization p. 3 (slides)
EIS Table 4-225 on p. 4-330 & p. 3-113

SUMMARY OF WATER

- RISK CHARACTERIZATION RESULTS ARE COMPARABLE TO EIS
- OPERATIONALLY, THERE WILL BE NO IMPACT ON WATER RESOURCES

2. WASTE

WASTE TYPE	RISK CHARACTERIZATION		EIS	
	ANNUAL VOLUME (m ³)	ANTICIPATED TREATMENT AND/OR DISPOSAL METHOD (e.g., solidification)	ESTIMATED ADDITIONAL WASTE GENERATED (m ³ /yr)	TREATMENT AND/OR DISPOSAL METHOD
TRU	17	Evaporate and/or solidify spent electrolytic decontamination and HEU processing solutions on-site. Disposal of all TRU waste by shipment to WIPP.	18	TRU wastes would be treated, packaged, and certified to WIPP waste acceptance criteria. Liquid TRU wastes would be evaporated or solidified before packaging for storage.
Mixed TRU	1	Disposal of mixed TRU waste by shipment to WIPP.	included in TRU	included in TRU
LLW	60.36	Solidify spent electrolytic decontamination and HEU processing solutions on-site; solidify/absorb small quantities of analytical lab waste on site. Off-site disposal.	50	LLW would be packaged, certified, and accumulated at the new facilities before being transferred for treatment and interim storage at existing casks facilities. Liquid LLW would be evaporated or solidified before being packaged for storage.
Mixed LLW	1.2	Solidify/absorb small quantities of analytical lab waste on-site. Off-site treatment and disposal.	1	Mixed LLW would be stabilized, packaged, and stored on the site for treatment and disposal in a manner consistent with the site treatment plan for Pantex.
Hazardous	84	Off-site commercial treatment and/or disposal.	2	Hazardous wastes would be packaged for treatment and disposal at off-site permitted commercial facilities.
Nonhazardous		On-site treatment of sanitary wastes. Off-site commercial recycling and/or disposal and follow current practices on disposal of solid wastes.		
Liquid	34,000		25,000	
Solid	50		1,800	

Risk Characterization Table 2.5 on p. 13 (paper) & p. 6 (slides)
EIS Table 4-62 on p. 4-84 & p. H-38 to H-40

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MD188-32

Infrastructure

DOE acknowledges the commentor's conclusion that operationally there would be no impact on water resources at Pantex.

MD188-33

Waste Management

DOE acknowledges the commentor's conclusion on waste management at Pantex.

SUMMARY OF WASTE

- RISK CHARACTERIZATION RESULTS ARE COMPARABLE TO EIS
 - ALL WASTES GENERATED FROM THESE PROCESSES CAN BE MANAGED WITH NO ADVERSE EFFECTS
 - WASTES FROM THESE PROCESSES WILL BE MINIMAL
 - THE SMALL AMOUNT OF LIQUID WASTES WILL BE SOLIDIFIED FOR DISPOSAL
 - WASTES WILL BE SHIPPED OFF-SITE FOR FINAL DISPOSAL
 - IT IS ASSUMED THAT TRU WASTE WOULD BE STORED ON THE SITE UNTIL 2016, BECAUSE CURRENT SCHEDULES FOR SHIPMENT OF TRU WASTE TO WIPP FROM SURPLUS PLUTONIUM DISPOSITION FACILITIES WILL BEGIN IN 2016 (EIS P. 4-83)
3. BACKGROUND FOR ROUTINE RELEASES TO PROVIDE RELATIVE IMPACT FOR AIR EMISSIONS AND ENVIRONMENTAL IMPACT FROM A HYPOTHETICAL ACCIDENTAL RELEASE

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FOR THE AREA OF PANTEX AND AMARILLO

RISK CHARACTERIZATION		EIS	
SOURCE	DOSE (mrem/person)	SOURCE	DOSE (mrem/yr)
Annual Cosmic Ray Dose	33	Cosmic and External Terrestrial Radiation	93
Annual Natural Terrestrial Dose	28	Internal Terrestrial Radiation	39
Annual Natural Radon Exposure	200	Radon in homes (inhalated)	200
		Other Background Radiation*	65
Annual Total	261	Total	397

*Other Background Radiation includes diagnostic x rays and nuclear medicine, weapons test fallout, air travel, and consumer and industrial products

Risk Characterization p. 10 (slides), EIS Table 3-32 on p. 3-103

4. AIR EMISSIONS

ROUTINE RELEASES

MATERIAL	RISK CHARACTERIZATION		EIS
	ARIES ANNUAL EMISSIONS (gm)	ARIES EMISSION DOSE (mrem/yr)	INCIDENT FREE OPERATIONS ANNUAL DOSE (mrem)
Plutonium	1.4×10^2	1×10^4	
Tritium	.1	8×10^2	6.2×10^2

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METHODOLOGY	RISK CHARACTERIZATION	EIS
	-used Pantex average annual meteorological conditions -chose worst-case downwind location (similar to EIS, MEI)	-used Pantex average annual meteorological conditions (7 m height) -Most Effectuated Individual (MEI)-

Risk Characterization p. 9, 10 (slides), EIS Table 3-27 on p. 3-24 & p. 3-21

IMPACT OF ROUTINE RELEASES

- RISK CHARACTERIZATION RESULTS ARE COMPARABLE TO EIS
- ANY ROUTINE RELEASES WOULD BE ARE 5000 TIMES LOWER THAN BACKGROUND (22% VARIATION IS NOTHING)
- OPERATIONALLY, THERE WILL BE NO IMPACT ON AIR RESOURCES
- OPERATIONALLY, THERE WILL BE NO IMPACT ON SOIL
- OPERATIONALLY, THERE WILL BE NO IMPACT ON WATER QUALITY

MD188

MD188-34

Human Health Risk

DOE acknowledges the commentor's conclusion that air emissions would not affect the air, soil, or water quality at Pantex.

5. ENVIRONMENTAL IMPACT FROM A HYPOTHETICAL ACCIDENTAL RELEASE

SCENARIO	RISK CHARACTERIZATION	EIS
	DOSE (micro/y)	DOSE
Acute ingestion of plutonium from surface water	.7	N/A
Acute ingestion of plutonium from groundwater	.4	N/A

METHODOLOGY	RISK CHARACTERIZATION	EIS
	used worst-case meteorological conditions to predict amount of material deposited on area of interest used maximum credible amount of material released (100 gm)	used maximum material released (39 gm)
Surface Water Case	-assumed completely mixed with no settling -assumed no water treatment -assumed to blending with ground water	N/A
Groundwater Case	-assumed all particulates are washed into the plays -recovery water is consumed from a well drawing water from the Perched Aquifer directly below the plays	N/A

Risk Characterization p. 22 (slides), EIS Table K-12 on p. K-38

SUMMARY

- RISK CHARACTERIZATION EXAMPLE WAS PURELY BOUNDING CALCULATION AND NOT TYPICALLY PERFORMED IN THE NEPA PROCESS
- THE EIS SOURCE IS SMALLER THAN THE RISK CHARACTERIZATION SOURCE
- THEREFORE WE WOULD EXPECT EVEN LOWER DOSES

6. IMPACTS ON AGRICULTURE OF A HYPOTHETICAL ACCIDENTAL RELEASE

PATHWAY	RISK CHARACTERIZATION	EIS
	ACRES AFFECTED	
Inhalation of resuspended material	110	N/A (see note)
Ingestion - deposition on fresh fruit	130	N/A
Ingestion - deposition on fresh vegetables	130	N/A
Ingestion - deposition on grain	80	N/A
Ingestion - milk deposition on forage	2	N/A
Ingestion - meat deposition on forage	2	N/A

METHODOLOGY	RISK CHARACTERIZATION	EIS
	used maximum credible amount of material released (100 gm) -determined acres of land affected to measure agricultural consequence -used adverse meteorological conditions to compute affected areas -determined ways that material could enter a person's body (inhalation of dust, ingestion of food, etc.) -identified number of acres where corrective action would be required to reduce public dose below acceptable levels (Protective Action Guidelines limits)	used maximum material released (39 gm)

Risk Characterization p. 23 (slides), EIS Table K-12 on p. K-38

SUMMARY

- RISK CHARACTERIZATION WAS PURELY BOUNDING CALCULATIONS AND NOT TYPICALLY PERFORMED IN EIS
- THE EIS SOURCE IS SMALLER THAN THE RISK CHARACTERIZATION SOURCE
- HENCE THE AFFECTED AREA FROM A HYPOTHETICAL ACCIDENT RESULTING IN POTENTIAL RELEASE WOULD BE SMALLER
 - NOTE: EIS, P K-8 PATHWAYS TO GROUND AND SURFACE WATER INCLUDING RESUSPENSION AND INHALATION OF PLUTONIUM AND INGESTIONS OF CONTAMINATED CROPS WERE STUDIED AND FOUND NOT TO CONTRIBUTE AS SIGNIFICANTLY AS DOSE TO INHALATION

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MD188-35

Human Health Risk

DOE acknowledges the commentor's conclusion that doses that would be expected from an accident at Pantex are even lower than those presented in this SPD EIS.

MD188-36

Human Health Risk

DOE acknowledges the commentor's conclusion that the affected area from an accident analyzed in this SPD EIS would be smaller than that presented in the commentor's impact analysis because he was using a higher source term.

7. POTENTIAL IMPACTS DUE TO HYPOTHETICAL ACCIDENTS

RISK CHARACTERIZATION				EIS			
ACCIDENT	PROBABILITY (yr ⁻¹)	MATERIAL RELEASED (t)	POTENTIAL CANCERS PER YEAR OF FACILITY OPERATION ^a	ACCIDENT	FREQUENCY ^b (per year)	SOURCE TERM (t)	LATENT CANCER FATALITIES PER YEAR ^c WITHIN 50 km
Dock Fire	5.0 x 10 ⁻⁴	9	1.8 x 10 ⁷				
Criticality	1.6 x 10 ⁻⁴		3.8 x 10 ³⁰	Criticality	Extremely unlikely 10 ⁻⁴ to 10 ⁻⁶	1.0 x 10 ³³ Fissions	1.4 x 10 ⁻⁴
Deflagration	1.0 x 10 ⁻⁴	4.8 x 10 ⁴	3.9 x 10 ¹¹	Explosion	Unlikely 10 ⁻² to 10 ⁻⁴	3.2 x 10 ⁴	2.4 x 10 ⁻⁴
Cell Fire	1.0 x 10 ⁻⁴	9.8 x 10 ⁴	1.9 x 10 ¹²	Fire	Unlikely 10 ⁻² to 10 ⁻⁴	1.2 x 10 ⁵	9.1 x 10 ⁻¹¹
Oxy. Explosion	5.0 x 10 ⁻⁸	65	1.3 x 10 ⁹	N/A	N/A	N/A	N/A
Spill	4.5 x 10 ⁻³	8.8 x 10 ⁷	1.6 x 10 ³⁰	Leaks/spills of nuclear material	Extremely unlikely 10 ⁻⁴ to 10 ⁻⁶	4.4 x 10 ⁶	3.3 x 10 ¹³
Max. Earthquake	1.5 x 10 ⁻¹	100	6.0 x 10 ⁸	Beyond- design-basis ^d earthquake	Extremely unlikely to beyond extremely unlikely 10 ⁻⁴ to 10 ⁻⁶ to less than 10 ⁻⁶	3.9 x 10 ⁹	3.2 x 10 ⁶
Truck Fire	3.2 x 10 ⁻⁴	30	3.8 x 10 ⁷	N/A	N/A	N/A	N/A
NOT CREDIBLE							
Max. Cell Fire	2.0 x 10 ⁻⁷	N/A	N/A	Beyond- design-basis fire	Beyond extremely unlikely less than 10 ⁻⁶	1.7 x 10 ²	1.4 x 10 ³⁰
A/C into Oxide Storage Facility	8.0 x 10 ⁻⁴	N/A	N/A				
A/C into DCF	4.7 x 10 ⁻⁴	N/A	N/A	Aircraft crash	Beyond extremely unlikely less than 10 ⁻⁶	2.2 x 10 ⁴	1.8 x 10 ¹⁷

Risk Characterization p. 13, p. 14, p. 16 (81068), EIS Table K-12 on p. K-38

^a The societal risk in potential cancers per year of facility operation is the probability of occurrence of the event that leads to a health effect (in units of yr⁻¹) multiplied by the health effect consequence per event (e.g., fatal cancers per accident event) (Risk Characterization p. 11 of Preliminary).

^b The frequency listed for each accident category represents the estimated overall annual probability of occurrence for that type of accident. (EIS p. 4-40)

^c Risk is usually defined as the product of the consequences (in terms of dose e.g., person-rem or health effects e.g., latent cancer fatalities) and estimated frequency of a given accident (per year). (EIS p. K-1)

^d Design basis for Performance Category 3 plutonium facility - designed to withstand the 1/10,000 year earthquake with the performance goal that occupant safety, continued operations, and hazard confinement being assured.

^e Beyond design basis - partial or total collapse of structure, spills, possible fires, and loss of confinement of plutonium powder (p. K-5)

CURRENT PANTEX OPERATIONS

ACCIDENT TYPE	POTENTIAL CANCERS PER YEAR OF FACILITY OPERATION
HE Initiated Pu Dispersal - Nat. Event	7.2 x 10 ⁴
HE Initiated Pu Dispersal - Int. Event	6.3 x 10 ⁶
Fire Driven Pu Release - Nat. Event	2.9 x 10 ⁷
Pu Release - A/C or Seismic	6.8 x 10 ⁴
Pit Breach - Int. Event	1.5 x 10 ⁶

Risk Characterization p. 17 (81068)

RISK SUMMARY

OUR RESEARCH SHOWS THAT THE POTENTIAL SOCIETAL RISKS ASSOCIATED WITH THE PROPOSED NEW MISSIONS WILL BE COMPARABLE TO THAT FROM CURRENT ACTIVITIES.

MD188-37

Facility Accidents

DOE acknowledges the commentor's conclusion that the societal risks posed by the proposed plutonium disposition facilities would be comparable to those associated with Pantex's current activities.

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The total amount of space that would be required for storage of TRU waste resulting from operations of the planned facility at Pantex is around 2800ft², or an area that is equivalent to a modest size residential home. According to the DOE, this required space would be added onto the conversion facility and would constitute only 1.5% of the total space required for the planned facility. The total amount of space required to store LLW before shipment is about 0.25 acres, or 8% of the planned Hazardous Waste Treatment and Processing Facility. I am assuming that the DOE plans on constructing this WM facility are unrelated to the siting decision (Reference to the WMPEIS). By my interpretation as an engineer, I do not believe that the facilities required to store this waste before shipment is significant compared to the overall magnitude of the project. By DOE's admission within the Surplus Plutonium Disposition Draft EIS, they do not believe that the waste generated from this facility is significant, or in DOE's own words "...impacts of the management of TRU waste at Pantex should not be major," and "Impacts of the storage of additional quantities of LLW at Pantex should not be major." Therefore, one can conclude that the required waste management should not be used as a discriminator in the siting of a conversion facility.

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MD188

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MD188-38

Waste Management

DOE agrees that impacts from the management of waste generated by surplus plutonium disposition activities would not be major, although costs may be higher at Pantex than at some of the other DOE sites due to the lack of an existing TRU waste management infrastructure. The construction of the Hazardous Waste Treatment and Processing Facility is independent of the decision on the siting of facilities for surplus plutonium disposition.

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DOE gives 3 reasons for selecting SRS for MOX:

- Activity complements existing missions.
- Takes advantage of existing infrastructure.
 - “Pantex does not offer a comparable infrastructure, including waste treatment.”
- Staff expertise.

No supporting information is given to support conclusion #1. What existing missions are complemented? None seem obvious. There is no ongoing dry plutonium processing at SRS.

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No supporting information is given to support conclusion #3:

- Has SRS ever done MOX fuel fabrication?
- Has SRS ever fabricated standard ceramic reactor fuel?
- Is SRS currently fabricating any reactor fuel?
- Is SRS doing any dry Pu processing?
- What expertise are we talking about?

If we examine #2 more closely, we find out that the Pantex site does not require any additional construction over SRS for the MOX facility (this can be determined by looking at the wastes produced during construction and the employment required during construction which are identical for MOX for SRS and Pantex), so what infrastructure is being taken advantage of that isn't at Pantex? Also, the document repeatedly states that the wastes should “not have a major impact” at Pantex, so what waste treatment facilities are Pantex lacking? In fact, in the section on cumulative results at SRS (summary page S-36), the “cumulative waste volume for hazardous waste exceeds the treatment and storage capacity” and the “treatment capacity for LLW could be exceeded.” Also, projected water requirements will exceed current site capacity if APT is built. So if anything, SRS should be at a disadvantage. Also, no analysis was done on the environmental effects of expanding the water capacity.

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If conversion is not done at Pantex, all the pits will have to be repackaged in AT400 (or some other approved transportation container) and shipped to SRS. This will not have to be done if the facilities are located at Pantex. The EIS estimates a 40% dose reduction to Pantex workers due to this. Were ALARA considerations evaluated as part of the decision process?

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Alternatives

Complementary missions that are ongoing at SRS include plutonium storage, nuclear materials stabilization, waste management, and research and development.

Existing infrastructure includes DWPF; waste management facilities such as the TRU waste certification facility, Consolidated Incineration Facility, and LLW disposal facilities; and safeguards and security systems. DOE is presently considering a replacement process for the in-tank precipitation (ITP) process at SRS. The ITP process was intended to separate soluble high-activity radionuclides (i.e., cesium, strontium, uranium, and plutonium) from liquid HLW before vitrifying the high-activity fraction of the waste in DWPF. The ITP process as presently configured cannot achieve production goals and safety requirements for processing HLW. Three alternative processes are being evaluated by DOE: ion exchange, small tank precipitation, and direct grout. DOE's preferred immobilization technology (can-in-canister) and immobilization site (SRS) are dependent upon DWPF providing vitrified HLW with sufficient radioactivity. DOE is confident that the technical solution will be available at SRS by using radioactive cesium from the ion exchange or small tank precipitation process. A supplemental EIS (DOE/EIS-0082-S) on the operation of DWPF and associated ITP alternatives is being prepared. Although the SRS staff may not have training in dry plutonium processing, they are trained in plutonium processing. In addition, reactor fuel fabrication was conducted in M-Area at SRS in support of production reactor operation, which ceased in 1992.

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Waste Management

There would be advantages to siting the proposed surplus plutonium disposition facilities at sites with active plutonium facilities, or to collocating two or more surplus plutonium disposition program facilities at a site. As described in Section 2.3.1, some infrastructure such as that associated with safeguards and security could be shared. Although DOE recognizes that some savings could be realized by collocating facilities, this SPD EIS includes a conservative analysis that generally does not account for these advantages. Section S.6 of the *Summary* states that because TRU waste is

not routinely generated and stored at Pantex, TRU waste storage space would be designated within the proposed surplus plutonium disposition facilities. Storage within the proposed facilities would only be required at Pantex because the other DOE sites have existing onsite TRU waste storage facilities. Section S.7 of the *Summary* states that although the cumulative volume of hazardous waste would exceed the treatment and storage capacity at SRS, major impacts on the waste management infrastructure would be unlikely because hazardous waste is generally not held in long-term storage, but rather is treated and disposed of at both onsite and offsite facilities. This section also states that although treatment capacity for LLW could be exceeded at SRS, major impacts would be unlikely because most LLW could be disposed of without treatment. The source of water for the accelerator, if built, would have been the Savannah River and it would not have affected the ability of the site to supply water to the proposed plutonium disposition facilities. The cumulative impacts section, Section 4.32, has been changed accordingly. The tritium production ROD that was issued in May 1999 chose the commercial light water reactors for tritium production.

MD188-41**Transportation**

ALARA considerations were used by the engineering, technical, and safety and health personnel who prepared the source information upon which the environmental impacts in this SPD EIS were determined. ALARA considerations would continue to be applied during the detailed design, construction, operation, and eventual D&D of the proposed surplus plutonium disposition facilities. DOE acknowledges that any decision to locate the pit conversion facility at a site other than Pantex would result in additional repackaging for shipment, and thus, increased dose to workers at Pantex. Section 2.18 and Appendix L.5.1 were revised to discuss repackaging the pits.

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**THE SPD EIS TREATMENT OF PROLIFERATION CONCERNS
DUE TO TRANSPORTATION**

- It appears that the majority of the shipments that involve significant volumes of material, and significant proliferation concern (as defined by an indication, in Table S-3 on p. S-20, to use SSTs) would occur as follows:
 - Campaign 1: 17 metric tons (t) of surplus nonpit Pu, from various DOE sites to the conversion immobilization facility.
 - Campaign 2: 33 t of surplus pits and clean metal from Pantex to the pit disassembly/conversion facility.³
 - Campaign 3: 33 t of weapons-grade Pu, in the form of PuO₂, from the pit disassembly/conversion facility to the immobilization or MOX facilities.
 - Campaign 4: 33 t of weapons-grade Pu, in MOX fuel bundles, from the MOX facility to a domestic commercial nuclear reactor.
- The second of the “equally weighted screening criteria” (p. S-13) “used to reduce the large number of possible facility and site combinations to the range of reasonable alternatives” (p. S-13) is entitled “proliferation concerns due to transportation of materials.” It is applied in such a way that any alternative that involves all of campaigns 2, 3 and 4 is eliminated from further consideration. But NEPA requires that “all reasonable alternatives be considered.” Therefore, in effect the application of this criterion puts the DOE on record as believing that *proliferation concerns associated with transportation of these materials are so great that a reduction of 33 t in the total amount of weapons-grade Pu to be shipped is sufficient to deem an otherwise reasonable alternative as unreasonable.*
- But there are alternatives that would provide an even further reduction in the amount to be shipped:
 - If all three facilities were located at Pantex, then only Campaign 1 (17 t) would be necessary. This is a 33 t reduction from the 50 t otherwise required under any other immobilization only option.
 - If a hybrid option were deemed essential for other reasons (e.g., achieving an agreement with the Russians), then collocating the pit conversion and MOX facilities at Pantex would require only Campaigns 1 and 4, which is a 33 t reduction in the amount to be shipped under any other hybrid option.

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³ This assumes all surplus pits and clean metal selected for disposition already are stored at Pantex. On p. S-4 it is stipulated that “most of the surplus pits are currently located there” (i.e., at Pantex).

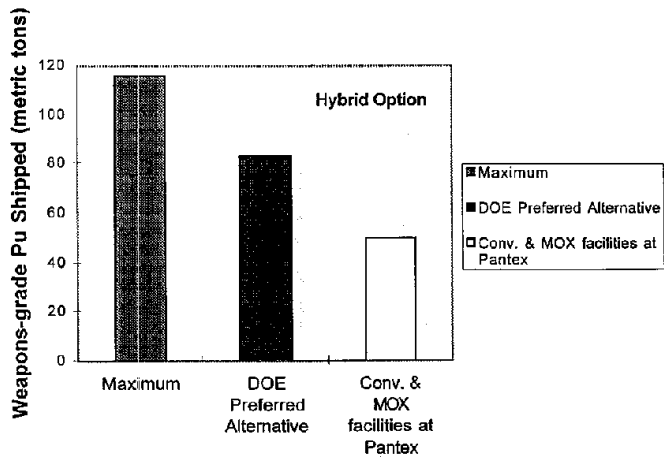
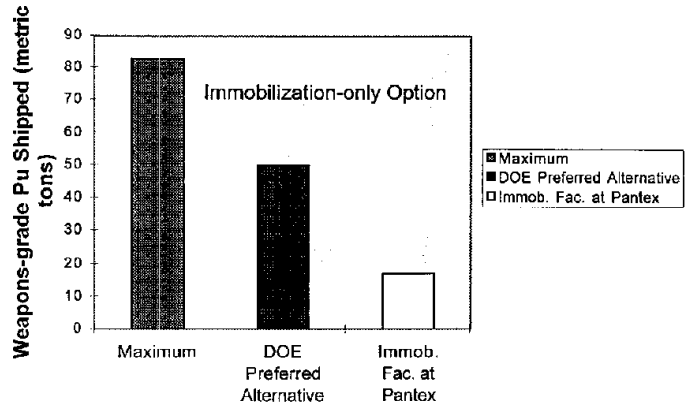
MD188–42

Transportation

DOE acknowledges the commentor’s preference for Alternatives 9 or 10, which involve collocating pit conversion and MOX facilities at Pantex. The location of the immobilization facility was considered in the *Storage and Disposition PEIS*, and the ROD states DOE’s strategy to immobilize at either Hanford or SRS. Therefore, this SPD EIS does not analyze immobilization at Pantex. Table L–6 shows the total transportation risks for all alternatives, including Alternatives 9 and 10. The transportation impacts for the preferred alternative, Alternative 3, are similar to Alternatives 9 and 10.

- **Summary:** If proliferation concerns associated with shipment of these materials is so great that a reduction of 33 t in the amount to be shipped is sufficient to cause an otherwise reasonable alternative to be deemed unreasonable, then why is there no record that those alternatives leading to similar further reductions were given commensurate credit?
- The following bar charts are an effort to present this graphically. DOE deems the shipping reductions in going from the left bars to the middle bars as sufficient to make alternatives requiring the maximum shipment unreasonable, on the basis of the associated proliferation risk. But there is no evidence I can find that they value the equivalent further reduction in going from the middle to the right bars - which just happen to favor Pantex - as worth a tinkers damn.

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MD188

**GENERAL SERVICES COMMISSION
ROGER MULDER
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**Surplus Plutonium Disposition
Draft Environmental Impact Statement
Comments**

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MD188

Surplus Plutonium Disposition

Processing and handling of unincorporated weapons-grade plutonium represents a clear departure from the historical radiological assembly/disassembly operations conducted at Pantex Plant. Given the restrictions of law and existing regulations, the Texas Department of Health has actively maintained limited surveillance of the Pantex Plant boundary and at readily accessible pre-selected monitoring points on site. Although by no means considered to be optimum, and given the nature of operations involving only handling of pre-fabricated radioactive components, this surveillance was considered to be the best achievable under the circumstances. To date, no significant off-site radiological degradation of the environment has been detected.

Any change in the nature of the mission or operations at the Pantex Plant must be undertaken with utmost sensitivity to needs of the neighboring community in addition to maximum attention to full compliance with published standards for protection against radiation. Texans must be assured the public health, the public safety, and the surrounding environment will be adequately protected.

While full Nuclear Regulatory Commission licensing of the Mixed-Oxide Fuel Fabrication Facility should be aggressively pursued, external regulatory oversight of the Plutonium Pit Conversion Process is not possible under existing law, nor is legislation to empower external regulation of Department of Energy Special Nuclear Materials operations likely to occur in the foreseeable future. There is, however, a discrete step in the pit conversion process, when Special Nuclear Material is removed from the pit shell and changed from its classified shape, that the Department of Energy should explore as a candidate for external oversight. This step in the process roughly coincides with the point of potential workplace and environmental radiological contaminant generation. The succeeding steps in the process should not by nature be precluded from external review. Cooperative activities undertaken by the Department of Energy over the past decade serve to indicate that independent external oversight can occur within national security constraints. The activities of the Defense Nuclear Facility Safety Board, Environmental Protection Agency, Occupational Safety and Health Administration, and of states hosting Department of Energy Facilities have produced some measure of compliance with accepted industry practice and published regulatory standards. Independent external oversight is clearly feasible, and would be in the best interest of the Department of Energy, the State of Texas, and the Nation. Should the Department of Energy decide to site the Mixed Oxide Fuel fabrication facility, the Pit Disassembly and Conversion Facility, or both facilities at Pantex Plant, active state participation in the review of facility

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MD188-43

DOE Policy

DOE acknowledges the commentor's environmental and health-related concerns. This SPD EIS was prepared to provide a comprehensive description of proposed actions and alternatives and their potential environmental impacts. DOE believes that all activities that are part of the proposed action and alternatives are analyzed adequately in this EIS. Each of the proposed surplus plutonium disposition facilities would be subject to some form of independent oversight. The pit conversion and immobilization facilities would likely be subject to review by DNFSB, and the MOX facility would be under the purview of NRC. As discussed in Section 2.4, it is likely that the United States would voluntarily offer to have the proposed facilities placed under international safeguards. However, the process of implementing international safeguards is not as yet fully defined. That process is part of ongoing sensitive negotiations between the United States and Russia.

As discussed in Chapter 5, DOE (or DCS) would have to obtain new or modified applicable State or Federal permits or licenses for construction and operation.

Based on the decisions made in the SPD EIS ROD, site emergency management programs would be modified to consider new accidents not in the current program. Similarly, as discussed in Appendix L.3.2, the Transportation Safeguards Division has established emergency plans and procedures that would be invoked whenever special nuclear materials are being shipped.

design would be imperative. Lessons learned from past Department of Energy activities at other locations should be applied to operations proposals. Best available technology should be utilized in the construction of the facility to ensure containment and control of potential radioactive contaminants. Subsequent state routine monitoring of process controls, such as task local exhaust ventilation, physical containment features and contaminant control procedures associated with the process would be necessary. Adequate resources would be required for the state to assemble and support a team of professionals dedicated to the routine surveillance of the new facilities.

An assessment of additional radiological impacts resulting from the proposed Pantex Plant expansion must receive priority consideration. The assessment would serve as the basis for further emergency planning efforts. Of particular interest would be issues relating to safe handling and transportation of the Special Nuclear Materials prior to processing, product resulting from processing and the wastes generated during the associated operations. Continued Department of Energy commitment to the upgrade of local emergency planning and response capabilities would be required.

Scrupulous management of Pantex Plant is crucial to the future of the Texas Panhandle, not only in postulated near term socioeconomic benefits, but also in fulfilling responsible stewardship of regional environmental resources. The decisions made in the Surplus Plutonium Disposition process must be made giving due consideration to the needs of the local citizens, the State of Texas as well as the Nation. Nurturing the existing positive relationship and further expanding the cooperative arrangements between the Department of Energy and the State of Texas to address these issues is in the best interest of all.

Surplus Plutonium Disposition
Draft Environmental Impact Statement
Comments

Texas Natural Resource Conservation Commission
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**GENERAL SERVICES COMMISSION
ROGER MULDER
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Surplus Plutonium Disposition Draft Environmental Impact Statement

**United States Department of Energy Office of Fissile Materials
Disposition**

July 1998

Texas Natural Resource Conservation Commission Comments

Plutonium disposition includes three (3) processes: pit conversion, immobilization, and MOX fuel fabrication. Four (4) candidate sites are considered for plutonium disposition in the EIS, including Hanford, INEEL, Pantex, and SRS. Pantex is the preferred site for pit conversion. SRS is the preferred site for immobilization and MOX fuel fabrication. The following comments are predicated on the assumption that immobilization and MOX fuel fabrication will indeed occur at a location other than Pantex, in accordance with the preferred alternatives outlined in Sections 1.6 and 2.4.2.1 of the EIS.

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|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| 1. | The volume of hazardous wastes is not included in Table 2-4, <i>Summary of Impacts of Construction and Operation of Surplus Plutonium Disposition Facilities by Alternative and Site</i> . | 44 |
| 2. | A typographic error occurs on page 3-110; TWRCC should be TNRCC. Another typographic error occurs in Section 3.4.7.2.1, page 3-114; Texas Development Board should be the Texas <i>Water</i> Development Board. | 45 |
| 3. | Drinking water should be examined as a possible route of exposure for radiological impacts. | 46 |
| 4. | We concur with DOE's appraisal that the Pantex Plant Federal Facility Compliance Act Compliance Plan/Agreed Order (FFCA) will have to be modified to accommodate the new TRU and LLW mixed waste streams. The Hazardous Waste Permit will also have to be modified to accommodate the new hazardous waste streams. Please clarify whether wastes generated during decontamination of the disposition facilities will be considered new waste streams. We assume that DOE will provide a detailed lists of waste components when the modifications are submitted to the TNRCC for approval. We recommend that DOE not commingle TRU and LLW wastes with their corresponding mixed waste streams. | 47 |
| 5. | The EIS states that the plutonium polishing process will either be attached to the plutonium conversion process or the MOX fuel fabrication process (Appendix N, page N-1). We prefer that DOE collocate the aqueous plutonium polishing process with the MOX fuel fabrication facilities. We understand that MOX fuel fabrication will occur at SRS, rather than at Pantex. | 48 |

MD188

MD188-44

Waste Management

Table 2-4 was revised to include hazardous waste volumes for each of the alternatives.

MD188-45

General SPD EIS and NEPA Process

DOE acknowledges and appreciates the feedback on typographical errors in the SPD Draft EIS. The errors cited have been corrected.

MD188-46

Human Health Risk

If the proposed surplus plutonium disposition facilities were located at Pantex, a very small incremental annual dose to the surrounding public from normal operations would result via radiological emission deposition on agricultural products (i.e., food ingestion pathway). This dose (about 0.56 person-rem/yr) would be 0.0006 percent of the dose that would be incurred annually from natural background radiation. There would be no discernible contamination of aquatic biota (fish) or drinking water, either from the deposition of minute quantities of airborne contaminants into small water bodies or from potential wastewater releases. Therefore, it is estimated that no measurable component of the public dose would be attributable to liquid pathways.

MD188-47

Waste Management

Neither the SPD Draft EIS nor this SPD EIS states that the Pantex FFCA Agreement Compliance Plan/Agreed Order would have to be modified to accommodate new TRU waste and mixed LLW. Although wastes would be managed in accordance with applicable laws, regulations, agreements, DOE orders, and permits, it is premature at this time to determine whether the FFCA Agreement Compliance Plan/Agreed Order would have to be modified.

D&D is discussed in Section 4.31. DOE will evaluate options for D&D or reuse of the proposed facilities at the end of the surplus plutonium disposition program. At that time, DOE will perform engineering evaluations, environmental studies, and further NEPA review to assess the consequences of different courses of action, including projected waste generation quantities.

DOE continues to work hard to minimize the generation of mixed wastes, and therefore will segregate the LLW and TRU waste from LLW and mixed TRU waste generated by the proposed facilities when feasible.

MD188–48 Plutonium Polishing and Aqueous Processing

DOE acknowledges the commentor’s support for collocating the plutonium-polishing facility with the MOX facility at SRS. On the basis of public comments received on the SPD Draft EIS, and the analysis performed as part of the MOX procurement, DOE has included plutonium polishing as a component of the MOX facility to ensure adequate impurity removal from the plutonium dioxide. Appendix N was deleted from the SPD Final EIS, and the impacts discussed therein were added to the impacts sections presented for the MOX facility in Chapter 4 of Volume I. Section 2.18.3 was also revised to include the impacts associated with plutonium polishing.

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|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| 6. | It would be helpful if the EIS consistently acknowledged that TRU waste also includes mixed (hazardous) TRU waste. The mixed TRU waste component is often referred to as a footnote (e.g., the tables in Chapter 4) or not acknowledged at all (e.g., Appendix N). In contrast, mixed LLW is consistently presented as a separate waste category. | 49 |
| 7. | Please specify what wastes will be generated during pit bisection process (Section 2.4.1.2) and how DOE anticipates these wastes will be managed, e.g., recycled, treated and stored, etc. | 50 |
| 8. | Shipping routes to Pantex and from Pantex to SRS should be incorporated into the EIS unless this is considered a security issue and random routes will be used. | 51 |
| 9. | The risk characterization states that the Advanced Recovery and Integrated Extraction System(ARIES) facility will be licensed by the Department of Energy(DOE) and overseen by the Defense Nuclear Facilities Safety Board(DNFSB). Define what is meant by "overseen". | 52 |
| 8. | Have considerations been made for ongoing radiologic public health surveillance and environmental assessments throughout the life of the project? | 53 |
| 10. | On page J-23, volume II of the SPD draft EIS, a calculational assumption was made stating that "ground surfaces, at Pantex, were assumed to have no previous deposition of radionuclides". Since data from ongoing projects at Pantex indicate that there has been previous deposition of radionuclides (e.g. survey data from Firing Site 5 residing in the Radioactive Material Licensing Section), please explain how that assumption was made. Will this have any effect on the modeling results for exposures to members of the public? | 54 |
| 11. | Page S-35 of the SPD EIS summary states that the number of latent cancer fatalities in the general population from Pantex site operations would be expected to increase from 5.5x10E-5 to 3x10E-3 if the proposed SPD facilities were located there. Clarify this large increase in the number of fatal cancers due to SPD facility operations. | 55 |
| 12. | There is no indication that the non-radioactive or hazardous air quality impacts will be significantly different from the current operation at Pantex. Hazardous air pollutant emissions from pit disassembly and conversion process and/or from mixed oxide fabrication process will be minimal. Sources of potential air quality impacts will include emissions from fuel- burning construction equipment, soil disturbance by construction equipment and other vehicles, the operation of a concrete batch plant, trucks moving materials and wastes, and employee vehicles. According to the EIS, air quality impacts during construction would be mitigated by applying, as appropriate, standard dust control practices such as watering or sweeping of roads and watering of exposed areas. This will control the potential increase in the PM10 emissions due to construction activities. | 56 |

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MD188-49**Waste Management**

Appendix H was revised to clarify that TRU waste includes mixed TRU waste.

MD188-50**Waste Management**

Information on waste generated by specific pit disassembly and conversion processes is summarized in Appendix H and is available in detail in the supporting data reports, such as the *Pit Disassembly and Conversion Facility, Environmental Impact Statement Data Report—Hanford* (LA-UR-97-2907, June 1998). These supporting reports state that LLW and TRU waste would be generated by the pit bisection process. These wastes would be managed along with the other LLW and TRU waste as described in the Waste Management sections of Chapter 4 of Volume I and Appendix H. Supporting reports are available in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

MD188-51**Transportation**

The shipment of nuclear material (e.g., depleted uranium) using commercial carriers would be the subject of detailed transportation plans in which routes and specific processing locations would be discussed. These plans are coordinated with State, tribal, and local officials. The shipment of waste would be in accordance with the decisions reached on the *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste* (DOE/EIS-0200-F, May 1997) and the *WIPP Disposal Phase Final Supplemental EIS* (DOE/EIS-0026-S-2, September 1997). The transportation of special nuclear materials is the subject of detailed planning with DOE's Transportation Safeguards Division. The dates and times that specific transportation routes would be used for special nuclear materials are classified information; however, the number of shipments that would be required, by location, has been included in this SPD EIS. Additional details are provided in *Fissile Materials Disposition Program SST/SGT Transportation Estimation* (SAND98-8244, June 1998), which is available on the MD Web site at <http://www.doe-md.com>.

MD188–52

DOE Policy

In this SPD EIS, the ARIES facility is referred to as the pit conversion facility. It is not correct to state that the pit conversion facility would be licensed by DOE because DOE does not issue licenses. However, DOE would be responsible for the safe operation of this facility. Before the proposed facility could begin operations, a safety analysis report would have to be prepared and an operational readiness review would likely be conducted; this is similar to the NRC licensing process. DNFSB would then periodically review DOE operations and report to the U.S. Congress and the Secretary of Energy on the safety of these operations. In this way, DNFSB oversees DOE operations at nuclear facilities.

MD188–53

DOE Policy

Each year DOE prepares a separate environmental report for each site with significant environmental activities. Each report provides a comprehensive summary of the site's environmental program activities. The sites for which annual reports are prepared include all those evaluated in this SPD EIS. Included in each report are discussions of the site's radiological surveillance programs and the results of environmental assessments. These reports, which are distributed to relevant external regulatory agencies and other interested organizations or individuals, would continue to be prepared throughout the life of the surplus plutonium disposition program. In addition to these annual assessments, health effects studies would continue to be conducted to evaluate the health of the public in the vicinity of the sites, and of workers at the sites. These studies are discussed in Chapter 3 (Volume I) of this EIS and in Appendix M of the *Storage and Disposition PEIS*. It is anticipated that these health studies would also continue throughout the life of the program.

MD188–54

Human Health Risk

The calculations in this SPD EIS were performed to assess the doses from operating the proposed surplus plutonium disposition facilities. The presence on the ground of previously deposited radionuclides does not affect the doses specifically associated with operating the proposed facilities. Doses from existing ground contamination are included in the

13. Since no increase in the hazardous air pollutant emissions are expected from the pit disassembly and conversion process and/or from mixed oxide fuel fabrication activity, none of the alternatives proposed for Pantex in the surplus plutonium disposition EIS would create a significant change in the non-radioactive air quality at Pantex. TNRCC would revisit the proposed impacts of facility operations and emissions and conduct a detailed technical review should DOE submit a permit application for a plutonium disposition facility.
14. In general, the predicted non-radiological air emissions at Pantex, which are proposed in the PuEIS, are not expected to differ significantly from existing operations at the facility. However, there are several issues which need to be addressed in the Final PuEIS. The draft PuEIS provides predicted short-term (1-hour or 24-hour average) maximum concentrations for "Hazardous and Other Toxic Compounds." While concentrations are predicted to be less than the 1-hour Effects Screening Levels (ESLs), the predicted 24-hour concentration are estimated to exceed the 24-hour ESLs for benzene and hydrogen chloride. While these exceedances of short-term ESLs are not expected to result in adverse effects, information was not available regarding annual (long-term) predicted concentrations. While the short-term ESLs for benzene and hydrogen chloride were established to protect the general public from acute adverse effects, it is also necessary to evaluate the annual predicted impacts for these compounds. For compounds such as benzene, a known human carcinogen, it is important to evaluate predicted impacts with respect to long-term or annual exposures. For hydrogen chloride, the annual ESL was derived to prevent corrosion of protect. For compounds such as these and depending on the specific circumstances, the technical review may focus largely on long-term exposure.

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Pantex site doses reported in Section 3.4.4. The total doses from existing contamination and from operating the proposed facilities are reflected in the cumulative doses given in Section 4.32.

MD188-55

Human Health Risk

The increase in the number of LCFs from 10 years of operating the proposed surplus plutonium disposition facilities at Pantex is the difference in the two numbers cited by the commentor, i.e., 0.003 minus 0.000055, which equals about 0.00295. This amounts to an increase of about 1 chance in 340 of an LCF in the total population within 80 km (50 mi) from 10 years of operation.

MD188-56

Air Quality and Noise

For the purpose of this SPD EIS, toxic air pollutant concentrations were compared with the Texas effects screening levels which are based on short-term (1-hr) and long-term concentrations. The concentrations compared with the long-term effects screening levels in the SPD Draft EIS were 24-hr values. The concentrations compared with the long-term effects screening levels were changed to an annual average value, which is consistent with current TNRCC guidance. The exposure to benzene is analyzed in the Human Health Risk sections of Chapter 4 of Volume I for each of the hybrid alternatives (e.g., see Section 4.3.1.4). No emissions of hydrogen chloride to the atmosphere are expected from construction and operation of the pit conversion or MOX facility.

**Surplus Plutonium Disposition
Draft Environmental Impact Statement
Comments**

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MD188

GENERAL SERVICES COMMISSION
 ROGER MULDER
 PAGE 44 OF 47

Review of Surplus Plutonium Disposition Draft Environmental Impact Statement

My review focused on the site description and on alternative 9A.

1. Section 3.4.2.6 Nonhazardous Waste
 Page 3-96, paragraph 3, lines 3-4, "A proposed upgrade to the sanitary wastewater treatment system would ensure that effluent limitations are met."

 The DEIS should address whether the proposed upgrade will in fact take place, or the odds that it will not take place, the likelihood that effluent limitations will not be met if the upgrade does not take place or has a delayed schedule, and the impact on water quality if the proposed upgrade does not take place or has a delayed schedule. Table on page 4-219 implies that discharge will increase by about 10 percent; is this correct? Is the upgrade for ensuring compliance with existing discharge or with the 10 percent increase in discharge? Why is the upgrade needed if the wastewater treatment plant is only operating at 35 to 50 percent of capacity, and only expects an increase of 5 percent (page 4-221)?

 The text should identify the number and frequency of occurrences when the discharge permits are exceeded under the present operations.

 The pathway for contaminant migration through Playa 1 to the perched ground water has in the past been a critical one for ground water contamination at the site so the DEIS needs to thoroughly address implications such as the one raised in the preceding comment. 57
2. Section 3.4.6.1 General Site Description
 Page 3-108, paragraph 3, lines 1-2, "The Ogallala Formation of Tertiary age consists of fluvial sands and gravels as well as eolian sands and silts."

 The designation of the Ogallala as fluvial and eolian is a little simple and overlooks extensive geologic studies done in support of Pantex Plant operations (e.g., Gustavson, T. C., 1996, Bureau of Economic Geology Report of Investigations No. 239). Gustavson (1996) stated that the Ogallala includes basal fluvial facies and that paleovalley-fill facies of heterogeneous gravel and sand channel deposits and sand and clay overbank deposits are interbedded with eolian sediments. 58
3. Section 3.4.6.1 General Site Description
 Page 3-110, paragraph 1 on playa hydrology
 Text on lines 2-3 overlook the fact that the playas can be dry because infiltration rate exceeds water inflow rate and thus perpetuates the myth that playa basins are evaporation ponds. 59
4. Section 3.4.6.1 General Site Description
 Page 3-110, paragraph 2 on Playa 1 water inflow
 Text states inflow of 946,000 L/day, which is equivalent to ~345,000 cubic meters per year (CMY). This is only 72 percent of the 473,000 CMY cited in table 3-28 as generation rate of nonhazardous liquid waste. What is the difference between these numbers? Is 128,000 CMY of liquid waste discharge elsewhere than Playa 1 (Text on page 3-96, paragraph 3, states sewage and industrial wastewater are discharged only to Playa 1)? 60

MD188

MD188-57

Waste Management

The Pantex Wastewater Treatment Facility upgrades described in Chapter 3 of Volume I would occur regardless of the proposed discharges from the proposed surplus plutonium disposition facilities. These upgrades are needed due to the age of the facilities, changing regulations, and problems with compliance, and are not related to the capacity of the facility. An EA, *Final Environmental Assessment for Wastewater Treatment Capability Upgrade, Project No. 96-D-122* (DOE/EA-1190, April 1999), for the treatment plant upgrade was completed in April 1999. If necessary, wastewaters would undergo treatment within the proposed facilities to meet influent requirements of the Wastewater Treatment Facility. Section 3.4.2.6 was revised to update the status of the treatment facility upgrade. As described in the EA, the upgraded and expanded facility would no longer discharge effluent to Playa 1. Instead, effluents would be stored and used to irrigate crops grown on the site in cooperation with the Texas Tech University Research Farm. The waste management impacts table in Section 4.17.2.2 indicates that the 51,000 m³/yr (66,708 yd³/yr) of liquid nonhazardous waste generation would be 5 percent of the existing capacity of the Wastewater Treatment Facility. This additional wastewater would increase the 473,125 m³/yr (618,848 yd³/yr) of current discharges to the Wastewater Treatment Facility by approximately 11 percent. Section 3.4.7.1.1 describes the December 2, 1997, Administrative Order issued by EPA regarding the Pantex Plant NPDES Permit. This section notes that a comprehensive corrective action plan was developed. Corrective actions include upgrade of the Wastewater Treatment Facility, soil stabilization and erosion control, and operational, maintenance, and monitoring program modification. The engineering solutions are scheduled for completion in 2003.

MD188-58

Geology and Soils

Section 3.4.6.1 was revised to include the description provided.

MD188-59

Geology and Soils

Section 3.4.7.1.1 was revised to incorporate the concept that playas may become dry because the infiltration rate can exceed the water inflow rate.

MD188–60

Waste Management

The rate that wastewater enters the Wastewater Treatment Facility is different from the rate at which treated water is discharged from the facility due to evaporative losses, losses through the liner of the lagoon, and water that is retained in the moist sludge from the treatment plant.

The remainder of this comment is addressed in response MD188–57.

Text on page 4-221 states that the wastewater treatment plant capacity is 2.6 million L/day. Is that correct? Given the number of 0.9 million L/day (page 3-110) for inflow to Playa 1, and assumption that all Playa 1 inflow is from the treatment plant, then the plant presently must be operating at ~35 percent of capacity. Is this correct? Or is the treatment plant operating at 50 percent capacity (using table 3-28 number on generation rate instead of Playa 1 inflow rate)?

61

- 5. Section 3.4.6.1 General Site Description
Page 3-113, paragraph 5 "depth to the Ogallala groundwater aquifer varies from..... This flow direction....."

This section is poorly written and should be rewritten to demonstrate that the DOE understands groundwater hydrology at the site. First, the word 'aquifer' in Ogallala groundwater aquifer is redundant and confusing; is the reference to the water table or to formation structure. Second, the 'flow direction' is not stated; the word 'this' starting the next sentence has no antecedent. Third, the apparent comparison of the water table dip to the 'regional northwest-to-southeast trend (?) of the remaining portion of the Southern High Plains' does not make sense.

62

- 6. Section 3.4.6.1 General Site Description
Page 3-113, paragraph 6 "extent, thickness, and hydraulic characteristics of (the Dockum Group) have not been established"

Statement is vague or inaccurate. For a regional study that includes the Pantex Plant and a list of older references refer to Dutton, A. R., and Simpkins, W. W., 1986. Hydrogeochemistry and Water Resources of the Triassic Lower Dockum Group in the Texas Panhandle and Eastern New Mexico, Bureau of Economic Geology Report of Investigations No. 161.

63

- 7. Section 4.17.2.2 Waste Management
Page 4-219, paragraph 4, Nonhazardous liquid waste generation is expected to increase by 5 percent of treatment plant capacity
See comments no. 1 and no. 4 above.

Whether a 5 percent increase in wastewater generation has an impact on groundwater or surface water quality has not been addressed. See comment no. 1 above regarding the need for analysis of past experience in meeting or violating liquid waste discharge permits. Should one assume that the rate of violation will increase by 5 percent? Would that have a major impact? Is the issue here the impact on the treatment system or on surface water and ground water quality? What impact would a 5 percent increase in wastewater generation have on water quality in Playa 1 and in ground water? Would that be a minor impact or a major impact? Is a minor impact on the treatment system or water quality acceptable?

64

Regardless of whether this is addressed in the Storage and Disposition Final PEIS (DOE 1996a), this needs to be addressed here.

- 8. Section 4.17.2.2 Waste Management
Page 4-324, paragraph 1, lines 3-5

It is not acceptable to refer to the Storage and Disposition Final PEIS (DOE 1996a:3-498) with the statement that wastewater discharge would have no impact. This finding needs to be argued here. A similar comment on an unrelated matter was raised at public hearing in Amarillo August 11 by a member of the public.

MD188

MD188-61

Waste Management

As discussed in Section 3.4.2, the capacity of the Wastewater Treatment Facility is approximately 946,250 m³/yr (1,237,700 yd³/yr), with current wastewater discharges to the facility of approximately 473,125 m³/yr (618,848 yd³/yr). Therefore, current use is approximately 50 percent of capacity.

MD188-62

Water Resources

Section 3.4.7.2.1 was revised to incorporate corrections based on the commentor's observations.

MD188-63

Water Resources

Information on the Triassic Dockum Group found in Section 3.4.7.2.1 was taken from the information on Pantex provided in *Environmental Information Document: The Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components EIS* (ES:96:0156, September 1996). The particular reference in this SPD EIS to the Triassic Dockum Group underlying the Ogallala aquifer was taken from *Hydrogeology and Hydrochemistry of the Ogallala Aquifer, Southern High Plains, Texas Panhandle and Eastern New Mexico* (Texas Bureau of Economic Geology Report of Investigation No. 177, 1988) and *Natural Phenomena Hazards Assessment for the Pantex Plant, Amarillo, Texas* (Jacobs Engineering Group, Contract 05-G010-S-91-0211, Task 35, October 1993). However, the referenced report given by the commentor was reviewed, and Section 3.4.7.2.1 was revised.

MD188-64

Waste Management

The Waste Management sections of Chapter 4 of Volume I describe impacts to the waste management infrastructure. Impacts on water resources (including surface water and groundwater) are discussed in the Water Resources portions of Section 4.26.

Section 3.4.7.1 was revised to reflect the status of the Pantex sanitary Wastewater Treatment Facility upgrade. As described in that section, beginning in 2003, the Wastewater Treatment Facility will no longer discharge effluents to Playa 1. Effluents will be used to irrigate crops grown

9. Section 4.17.2.2 Waste Management
Page 4-324, paragraph 3
28 million L/yr of additional groundwater withdrawal is 4.5 percent of 1995 production rate (617 million L/yr [page 3-113]). Where does the number on 23 percent of groundwater capacity come from?

It is not acceptable to refer to the Storage and Disposition Final PEIS (DOE 1996a:4-686 to 4-687) with the statement that groundwater demand would have no impact. This finding needs to be argued here. Groundwater levels are declining because withdrawal exceeds recharge. Does the DOE assume that the Panhandle Groundwater Conservation District No. 3 will allow Pantex to exceed 1995 production rates? Is this assumption valid or founded on discussion with the District? The same comment applies to the statement on impact from operations in section 4.26.3.2.2.

65

10. Section 4.32.3.3 Waste Management
Page 4-401, Table 4-280
Table gives 15 yr production of 554,900 cubic meters of liquid nonhazardous waste. This averages ~37,000 CMY. Table 4-157 gave a number of 50,000 CMY for operations liquid waste generation. How has the savings of 13,000 CMY or 195,000 cubic meters during 15 years been achieved? If Table 4-280 understates waste generation rate by 35 percent, what impact does that have on the findings?

66

MD188

on the site in cooperation with the Texas Tech University Research Farm. Therefore, beginning in 2003, effluents from Pantex facilities will no longer impact the surface waters of Playa 1.

The remainder of this comment is addressed in response MD188-57.

MD188-65

Infrastructure

Note that page 4-324 of the SPD Draft EIS is part of Section 4.26.3.2.1, Water Resources, and not part of Section 4.17.2.2, Waste Management. This SPD EIS references the *Storage and Disposition PEIS* for impacts on groundwater quality, but does not rely on that EIS for impacts on groundwater capacity. The percentage cited in this SPD EIS is calculated from the addition of the construction-related water demand plus current usage divided by the site groundwater supply production capacity. Both the current usage and site capacity figures are cited in Table 3-36. Section 3.4.7.2.1 was revised for clarity and updated; it now better describes the relationship between the Panhandle Groundwater District 3 and groundwater use at Pantex.

MD188-66

Waste Management

Section 4.32.3.3 describes waste generated during both construction and operations. The total presented in the Cumulative Impacts section cannot simply be divided by 15 to determine the annual waste generation rate for each alternative. During construction of the pit conversion and MOX facilities at Pantex, 25,000 m³ (32,700 yd³) of liquid nonhazardous waste would be generated annually, for a total of 75,000 m³ (98,100 yd³) over the 3-year construction period. During operation of the pit conversion and MOX facilities at Pantex, 51,000 m³ (66,708 yd³) of liquid nonhazardous waste would be generated annually, for a total of 510,000 m³ (667,080 yd³) over the 10-year operating period. Thus, if both the pit conversion and MOX facilities were at Pantex, a revised maximum total of about 590,000 m³ (771,720 yd³) over the combined construction and operating period would be expected.

This is Dorothy Graves at 429 Mesquite Avenue in Amarillo, Texas and I was unable to go to the meeting that they had here in Amarillo at the Radisson Inn and we were making, we were voting either for or against having this, having this program, at the, at the Pantex Plant. And just wanted to say that I am in favor of it, of it coming to Amarillo. I worked at Pantex for fourteen years. I'm retired now, but I worked there fourteen years and I do know that they were very good, very careful and we certainly were not afraid of working there. And I just wanted to say I do hope that you come to Amarillo. We would love to have you. Thank you and bye-bye.

1

PD024

PD024-1

Alternatives

DOE acknowledges the commentator's support for new missions at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

GREEN, CHARLES E.
PAGE 1 OF 1

7616 Tarrytown Avenue
Amarillo, TX 79121

August 7, 1998

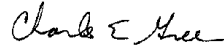
U.S. Department of Energy
Office of Fissile Materials Disposition c/o SPDEIS
P. O. Box 23786
Washington, DC 20026-3786

Gentlemen:

The following factors and thoughts are offered in favor of Pantex as the selected site for the Pit Disassembly and Conversion Facility:

1. The plutonium is at Pantex. Processing this material at Pantex avoids the cost of packaging, transporting, and unpackaging the plutonium. Potential safety concerns associated with personnel radiation exposure due to handling the material or due to shipping accidents are avoided. The inevitable public outcry opposing the movement of plutonium on public highways will be avoided. Public outcry could easily be elevated into court challenges involving legal delays and expense for the Department of Energy.
2. Pantex is closer to the National Laboratories than Savannah River. Travel expense for supporting technical personnel will be reduced if Pantex is the selected site.
3. Pantex enjoys commendable public and community support at all levels of the political, economic, social and academic institutions.
4. The DOE should consider the cost of not selecting Pantex for this work as well as the direct cost of constructing the facility. Pantex has a large fixed cost with the infrastructure to support 3000-4000 workers. It is much more efficient to operate Pantex in a fully busy state than to maintain it at a half utilized state of approximately 2000 workers. In addition locating new work at Pantex will improve employee morale and provide a young workforce incentive to work at Pantex. Continuing the present trend of downsizing Pantex is going to result in a hollow facility that will be increasingly expensive to operate and maintain and that is staffed by an aging workforce.

Very truly yours,



Charles E. Green

MD014

MD014-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at Pantex. Because cost issues are beyond the scope of this SPD EIS, this comment has been forwarded to the cost analysis team for consideration. For a better understanding of the cost and schedule estimates for each alternative, consult *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998) report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative. These documents are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS and Washington, D.C.

Worker exposures from repackaging pits to shipping containers as required by the decision to use the AL-R8 sealed insert container were revised in Section 2.18 and Appendix L.5.1. These results will be factored into the siting decision for the pit conversion facility. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

August 11, 1998

U. S. Department of Energy
Office of Fissile Materials Disposition
MD-4 Forrestal Building
1000 Independence Avenue, SW
Washington, D. C. 20585

As a citizen of Amarillo, I wish to express my feelings about the location of the disassembly and conversion of nuclear weapons plutonium components ("pits") at the Amarillo Pantex plant. I feel very comfortable with the expansion of Pantex's responsibilities. This comfort is based on the long history of responsible action that has been conducted through the DOE (its predecessor organizations) and through the excellent day-to-day management by the plant's primary contractor, Mason & Hanger Company.

1

Given the past history of the Pantex plant, the environmental assurances given by the DOE and the proven history of the plant operator, I support the expansion of the Pantex facility for either or both of the pending opportunities.

Sincerely,



David H. Hemphill
7041 Chelsea
Amarillo, TX 79109

TXD09

TXD09-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at Pantex. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.



United States
Department
of Energy

Comment Form

NAME: (Optional) Donald HERNON
ADDRESS: 107 Sunset Terrace, Amarillo TX 79106
TELEPHONE: (806) 379-4784
E-MAIL:
Welcome to the Amarillo Area.

I want to call your attention to the excellent worker
safety record of the Pantex Plant
and health

From FY 95 to FY 98 (through June), Pantex
employees have achieved a reduction in OSHA
recordable cases of about 45%, and a reduction
in First Aid cases of about 75%.

This significant achievement is, in my opinion, a
result of Pantex employees and management
working together, while embracing the principles
of the Voluntary Protection Program (which is an
OSHA Program adopted by the DOE).

Pantex employees have demonstrated their ability
to accomplish now tasks both safely and efficiently.
and health

I believe the safety record of the Pantex employees
should be seriously considered when the DOE
selects a site for the pit disassembly and
conversion facility.

Thank you for your consideration.

1

TXD26-1

Alternatives

DOE acknowledges the commentator's support for siting the pit conversion facility at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

TXD26



United States
Department
of Energy

Comment Form

NAME: (Optional) Joyce Hickman

ADDRESS: 3400 Milam - Ama, Tx. 79109

TELEPHONE: () _____

E-MAIL: Shipping cross country is too dangerous, let's keep our highly trained and experienced people in Amarillo doing what they are trained to do in Amarillo.

I am personally acquainted with Jerome Martin of Amarillo, you couldnt find a more knowledgeable coworker. We need him in Amarillo.

Be sure the storage is lead-covered vitreous can in container storage in pits. Pits should be lined with at least 2" liners. Think what a problem we now have at Hanford with that thin (proposed to last 20 years) lining so close to the Columbia River. Sometimes we are too shortsighted. Savanna River also is on a river, and that precludes it as a site. It is a no-no. (Politics aside), Savanna site has a bit of subsoil moisture. Water can, over time, adversely affect the containers. You have a mess when it blends into the river, as could happen at Hanford. But Pantex needs to own more land for future needs, now! ~~where~~ there are no homes nearby.

TXD11

TXD11-1

Transportation

DOE acknowledges the commentor's concerns about the dangers of shipping plutonium cross-country and losing talented personnel to plutonium-related missions at other sites. Transportation would be required for both the immobilization and MOX approaches to surplus plutonium disposition. Transportation of special nuclear materials, including fresh MOX fuel, would use DOE's SST/SGT system. Since the establishment of the DOE Transportation Safeguards Division in 1975, the SST/SGT system has transported DOE-owned cargo over more than 151 million km (94 million mi) with no accidents causing a fatality or release of radioactive material. The transportation requirements for the surplus plutonium disposition program are also evaluated in this SPD EIS. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

TXD11-2

DOE Policy

Plutonium pits are stored in AL-R8 containers, which were developed by DOW Chemical in the late 1960s. The AL-R8 container was certified as a Type B package in 1974 and was used mainly for the movement of pits between RFETS and Pantex. The container is no longer used for shipment; it is now the primary container used for pit storage at Pantex. The containers have a uniform, nominal outside diameter of 51 cm (20 in). All AL-R8 containers are constructed of 18-gauge carbon steel. Within the AL-R8 container, a pit is secured on a metal frame and surrounded by Celotex (a high-density, cane-fiber pressboard) insulation.

TXD11-3

Water Resources

A description of water resources at the candidate sites is provided in Chapter 3 of Volume I. Section 4.26 analyzes the impacts of the immobilization and MOX approaches at the candidate sites. This analysis includes both surface water and groundwater resources. No impacts are expected on water resources at either Hanford or SRS. Chapter 4 of Volume I also includes an analysis of human health risk and the results of this analysis demonstrate that the activities would likely have minor impacts at any of the candidate sites.

TXD11-4

DOE Policy

There are no land acquisitions planned as part of the surplus plutonium disposition program.



United States
Department
of Energy

Comment Form

NAME: (Optional) Harvey B. Hopps, Ph.D.
ADDRESS: 3236 Tuleam St, Comanche, TX 79109
TELEPHONE: (817) 371-3334
E-MAIL: HB.HOPPS@ACTX.EDU

I strongly support the Pantex plant as the site for surplus disposition of plutonium pits. I have had over 36 years of industrial experience as an organic chemist during which time I have worked with many various hazardous chemicals. Safety begins with full knowledge, respect & training to product & proper attitude. I have every respect for the staff at Pantex & urge the DOE to select this site for the Surplus Plutonium Disposition site.

Harvey B. Hopps Ph.D.
Instructor, Comanche College

TXD42-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

TXD42

Director,
 Ms. Carol Borgstrom, My dad and I were talking, Saturday about these bad air plane crashes they have had lately. He is seventy nine years old, and a World War II veteran. He stated: that it had probably been discussed by scientists before, but he thought it might be safer if they put a "big" parachute on top of the plane in case it might have trouble, one that is big enough to hold the plane up in case the motors quit running. I later thought that maybe if they had a big "helium" balloon that would inflate during trouble.

I saw on "television" the other day that Latraid Ultra is good for a person, in which this young "brunette", says "come to Mama".

MD323

MD323-1

DOE acknowledges the commentors' observations.

Other

Sincerely,
Tommy Hughes and Dad.

MD323

INTERNATIONAL GUARDS UNION OF AMERICA, LOCAL 38
RANDALL SKINNER
PAGE 1 OF 1

Pantex Guards Union
Local Number 38
International Guards Union of America

3820 Holiday Drive
 Amarillo, Texas 79109
 Phone / Fax (806) 467-9089

The International Guards Union of America (I.G.U.A.) Local # 38, supports Pantex in its pursuit to be awarded the Plutonium Pit Disassembly and Conversion Facility contract with the Department of Energy (D.O.E.).

Currently Mason & Hanger Corporation is one of the largest employers in the area employing around 3000 people in Amarillo and the surrounding area. With the M.O.X. fuel contract being awarded to Savannah River and production being at an all time low it is imperative that we strive to acquire new work in this field.

The future of Pantex will be uncertain without new work. Pantex may lose the ability to retain essential personnel, which would erode our Commitment to Excellence Program currently maintained at Pantex. The economic hardship of Panexans losing their jobs, would affect all areas of Amarillo's economy.

Currently the storage process is already in place at Pantex Plant and we are the only facility able to accommodate the storage of these materials without spending millions of dollars converting existing structures at other plant sites and the added expense of transportation to accomplish this task.

The work that is presently being performed at Pantex has been done for more than 45 years with the best safety record in the D.O.E. complex, the personnel that perform these duties are highly and constantly trained and genuinely concerned about industrial safety, nuclear explosive safety and the future impacts on the environment.

One of the details concerned with the final disposition of our nations nuclear weapons, is security, the security force at Pantex consists of more than 320 armed Security Police Officers and more than 50 Supervisors and support personnel.

The security force members are continually trained in all aspects of the protection and safeguarding of nuclear materials. The Pantex Security Forces continued their tradition of being the best in not only the D.O.E. complex but the entire nation this year by winning the National Security Police Officer of The Year Competition in Savannah River and bringing home the National Championship and the Secretary's Trophy.

So please consider the alternatives and then add up the dollars saved, the safety records of Pantex and the comfort afforded by a world class security force and commit your support to Mason & Hanger Corporation in this endeavor to secure the futures of our jobs and families.

Randall Skinner
 Business Agent
 I.G.U.A. Local # 38

TXD35

TXD35-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at Pantex. Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS and Washington, D.C. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.



Jefferson Street Family Practice, P.A.

16 August 1998

U.S. Department of Energy
Office of Fissile Materials Disposition
P.O. Box 23786
Washington, D.C. 20026

1603 W. 33th Street
Suite 216
Austin, Texas 78751
(512) 459-1147
Fax: (512) 459-9134

Dear Fellow Citizens:

I would like to take this opportunity to voice my opposition to the use of the Pantex site for plutonium processing. Although Pantex is not in a heavily populated area, the fact that it is above the Ogallala aquifer is quite important to the region. Any contamination of the water supply would have far reaching effects.

1

Also, the need to transport the plutonium would be a major risk as well. Any accident in its transportation could have devastating results. Since this would be the case in any scenario where plutonium would need to be sent from one place to another, probably the best option would be for a ceramification can-in-canister approach to its disposition with more local storage of the containers.

2

There are already doubts about the safety of storage of plutonium currently occurring at Pantex. Plutonium is now being kept in containers that are not corrosion free and they are being temporarily stored in bunkers that are inadequate for any long term storage, and probably are dangerous even in the short run.

3

I admit that I am not an expert on nuclear technology or waste, but the processing and storage of plutonium at Pantex seems an unwise plan.

Sincerely,

Elliot J. Trestler, M.D.

Pamela Garcia, M.D.
Alyx Gupta, M.D.
Mark J. Levy, M.D.
Ann H. Messer, M.D.
Elliot J. Trestler, M.D.
Maurice Gooden, RN, FNP
Gay L. Zehn, Manager

MD040

MD040-1

Water Resources

DOE acknowledges the commentor's opposition to locating the pit conversion and MOX facilities at Pantex. Section 4.26.3.2 indicates that there would be no discernible impacts to water quality from construction and normal operation of the proposed facilities.

MD040-2

Transportation

DOE does not agree that the transportation of nuclear materials required to disposition surplus plutonium is a major risk. Section 2.18 describes the transportation risk for each of the alternatives analyzed in this SPD EIS. DOE does, however, recognize the public concern about this issue and will work with State, tribal and local officials on transportation plans related to the shipment of nuclear materials in accordance with DOT, DOC, and DOE agreements. As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures (accidental or not) or vehicle emissions are expected. DOE acknowledges the commentor's support for the use of the ceramic can-in-canister approach.

MD040-3

DOE Policy

DOE acknowledges the commentor's concern regarding the storage of plutonium pits at Pantex. DOE is committed to the safe, secure storage of pits and is evaluating options for upgrades to Pantex Zone 4 facilities to address plutonium storage requirements. In addition, DOE has addressed some of the commentor's concerns in an environmental review concerning the repackaging of Pantex pits into a more robust container. This evaluation is documented in the *Supplement Analysis for: Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components—AL-R8 Sealed Insert Container* (August 1998). This document is on the MD Web site at <http://www.doe-md.com>. Based on this supplement analysis, the decision was made to repackage pits at Pantex into the AL-R8 sealed insert container and to discontinue plans to repackage pits into the AT-400A container.



United States
Department
of Energy

Comment Form

NAME: (Optional) JP Johnson
ADDRESS: _____
TELEPHONE: (____) _____
E-MAIL: _____

I am a quality assurance technician at Pantex
I am also the union steward for my area.
On behalf of those in my area that couldn't
make it here tonight I would like to express
~~their~~ feelings brought to me.

We are proud of the work that is done at
Pantex. Our area does exactly what our title
states. We ensure the quality of work at the
Pantex plant. Let me assure you, the quality
of the work that is performed at the Pantex
plant is top notch ^{bar none} again, our commitment
is to the pursuit of excellence in the work
place.

We strive to give you, DOE the best product
possible. ~~We strive to give the public the~~
~~safest dose.~~

Remember, Safety First!

We strive to give you the public, our families,
the environment the safest work place possible.

TXD21-1

Alternatives

DOE acknowledges the commentor's views on the high quality of work at Pantex and appreciates the assurance of continuing efforts to that end. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.



United States
Department
of Energy

Comment Form

NAME: (Optional) Mina Fields Johnson
ADDRESS: Box 114, Adrian, TX 79001
TELEPHONE: (806) 538-6214
E-MAIL: minarell@am.net

I moved back to the panhandle
to raise my family. I hope so
there would be a legacy for
my grandsons.
I don't want my lovely state
ruined by the mistakes of
bureaucrats. Don't increase the
plutonium situation in West
Texas. Let's decrease it.

1

Mina Johnson

TXD08

TXD08-1

Alternatives

DOE acknowledges the commentor's opposition to the surplus plutonium disposition program at Pantex. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

Aug. 11, 1998

To Whom It May Concern:

I am a 22-year resident of Randall County and the city of Amarillo and I fully support the proposed expansion of the Pantex mission. Pantex is an honorable member of this community and has been operated in a safe and efficient fashion. There is no reason to forecast that this will change if the added plutonium disposition project is assigned to Pantex. I believe that the plant has operated in an environmentally sound fashion and has caused no irreparable harm to the surrounding area, thanks to careful attention paid to developing scientific research and resultant commercial applications. I do not think it is wise to hold the Pantex facilities hostage to past misdeeds which occurred at the Rocky Flats or Hanford sites. Likewise, I feel the Pantex security

1

TXD03

TXD03-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

forces are superior and fully capable of protecting the plant from terrorist activities which present an ever-growing problem. It seems only logical to locate the expanded plutonium mission in this area which is 300-400 miles from any major metropolitan area and thus far more easily circumscribed and protected. The potential for terrorist activity would be greater, harder to detect, and could result in greater harm in the Savannah River corridor which includes Miami, Atlanta, Washington, D.C., and New York City. This argument alone should be sufficient to tip the scales in favor of Pantex as the preferred location for the expanded operations.

Therefore I encourage the Texas Congressional delegation and DOE representatives to speak forcefully and favorably concerning the assignment of plutonium disposition duties to the Pantex plant.

Sincerely,
Doris K. Kaczmarek

DORIS K. KACZMAREK
3501 EDGEMOOD; AMARILLO, TX 79109
806 359-5338; FAX 806 359-5836

TXD03

This is Robert Karrh. My address: Route 8, Box 40-10, Amarillo, Texas 79118. I would like to voice a comment on why doesn't it make sense that we put the station in Amarillo instead of taking it, you know, somewhere else. The pits are already here and it looks to me like it would be, logical to place the pit disassembly and conversion facility in Amarillo instead of having to cart these pits X number of hundred miles to Savannah River or somewhere else. There, in the possibility of them, you know getting damaged or whatever. So I want to voice my comments for Amarillo, Texas and the Pantex Plant for the preferred pit disassembly and conversion facility. The community here really supports Pantex. They got a great safety record. They got qualified people, engineers and technicians and I think it makes more sense to place it here.

1

PD012

PD012-1**Alternatives**

DOE acknowledges the commentor's support for siting the pit conversion facility at Pantex. Potential impacts of transportation of pits would likely be minor if Pantex were chosen as the site for pit disassembly and conversion because pits are currently stored there, while transportation would be minimized if SRS were chosen because SRS is the preferred location for the MOX facility. Transportation impacts are summarized in Chapter 4 of Volume I and Appendix L. As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures (accidental or not) or vehicle emissions are expected. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses (including analysis of transportation risks), technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

KEEN, MARILYN
PAGE 1 OF 1

Yes, this is Marilyn Keen at 4018 Tulane, Amarillo, Texas, 79109. (806) 355-6271. I'm in favor of the Pantex expansion and the disposition of the nuclear, plutonium pits at the Pantex Plant. Thank you.

1

PD015

PD015-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

Douglas M. Kelly, Hereford, Texas 79045. 704 11th Street.
And I thought this was to make a comment on whether we
needed that facility up there for the plutonium and my ideas
was heck no due to the water. And the one mistake and it's
gone. That was it. Good bye.

1

PD014

PD014-1**Alternatives**

DOE acknowledges the commentor's opposition to siting the proposed surplus plutonium disposition facilities at Pantex. There would be no discernible contamination of aquatic biota (fish) or drinking water, either from the deposition of minute quantities of airborne contaminants into small water bodies or from potential wastewater releases. Therefore, it is estimated that no measurable component of the public dose would be attributable to liquid pathways. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

I am for the location of additional missions at the Pantex Plant in Amarillo. The Amarillo economy needs the additional jobs that offer good pay and good benefits. The Pantex Plant adds an enormous, and welcome, boost to the Amarillo economy.

1


WD021

WD021-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

**Question/ Information
Request Card**



Name: MARK KOPKE

Address: 4116 SILVERINGTON
AMARILLO TEXAS

Phone: 806 358-4063 Fax: _____

E-mail: _____

Question/ Request: YOU BOKE ARE AIR BASE AWAY
SAVANNA HAS GOTTEN A MISSION, BE FAIR
GIUE PANTEX A MISSION & WE HAVE EARNED
IT. LOOK AT NEP RECORDS

For further information contact:
U.S. Department of Energy, Office of Fissile Materials Disposition, MD-4
Forrestal Building, 1000 Independence Ave., SW, Washington, D.C. 20585
1-800-820-5156

1

TXD12

TXD12-1

Alternatives

DOE acknowledges the commentor's support for the surplus plutonium disposition program at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

LADD, KEENA
PAGE 1 OF 1

August 11, 1998

Keena Ladd
Rt 7 Box 680
Amarillo, TX 79118

To whomever this may concern,

As a citizen of Amarillo, I would like to express my feelings upon the issue of the Pantex Plant. I have lived here for 23 yrs. and have yet to hear many critical points about this plant. As many people that it employees, that tells you right off that Mason & Hanger is a fantastic company to work for. Why don't people just go on about their business? How would they like it if someone tried to close their doors? The reason I am discouraged, my Dad is an Master Electrician at the plant. How is there going to be food on our table if he has no work? **Leave it alone** and help our Nation with **Drugs, Teen Pregnancy, Weapons**, things that are far more important. Please consider this my vote. Thank you!

1

"I AM FOR PANTEX IN OUR COMMUNITY!!"

Sincerely,



Keena Ladd
Age 23
Amarillo, TX

FD005

FD005-1

Alternatives

DOE acknowledges the commentor's support of Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

United States
Department
Of Energy

Comment Form

NAME: (Optional) Jerome B. Martin, CHP *J. Martin*
ADDRESS: 5 Locke Place, Amarillo, TX 79124
TELEPHONE: (806) 342-9985
E-MAIL: jbmartin@am.net

The major risk to workers and the public from current operations at Pantex Plant is the accidental detonation of high explosives. Nuclear weapons contain two types of high explosives: sensitive and insensitive HE. As the nuclear stockpile is modernized and older weapons programs are disassembled, sensitive HE is gradually being eliminated from the stockpile. Thus, the relative risk of operations at Pantex is decreasing with time.

If the Plutonium Disassembly and Conversion Facility were built and operated at Pantex, there may be a small incremental risk added to the risk of current operations. However, further reductions in risk achieved by continued elimination of sensitive HE would soon counter the added increment from a new mission at Pantex. A sample plot of risk vs. time is shown below. If the relative risk can be quantified and illustrated as shown below, it would be helpful in explaining risk to the public and for demonstrating that the risk of the Plutonium Disassembly and Conversion Facility is small and manageable.

1



For further information contact:
U.S. Department of Energy, Office of Fissile Materials Disposition, MD-4
Forrestal Building, 1000 Independence Ave., SW, Washington, D.C. 20585
1-800-820-5156

FD201

FD201-1

Human Health Risk

While the commentor's input is illustrative, the accident analysis performed in this SPD EIS is limited to characterizing risk of the alternatives at issue. The accident risks associated with constructing and operating the pit conversion facility at Pantex can be found in the Facility Accidents sections of Chapter 4 of Volume I and in Appendix K.4.



Maryknoll Education Center
The Maryknoll Society
4301 Bryan Street # 202 Dallas, Texas 75204
Area Code (214) 821-4501

August 17, 1998

U.S. Department of Energy
Office of Fissile Materials Disposition
P.O. Box 23786
Washington, D.C. 20026-3786

Dear Department of Energy, Office of Fissile Materials Disposition:

I do not support plutonium processing at the Pantex Plant. In the *Surplus Plutonium Disposition Draft Environment Impact Statement*, the Department of Energy prudently decided against locating one plutonium processing facility at the Pantex Plant. For the following additional reasons, a Plutonium Pit Disassembly and Conversion facility also should not be located at Pantex:

1. Pantex should not become the next Rocky Flats. As Pantex has never processed plutonium, it has apparently escaped the type of contamination found at plutonium processing sites like Rocky Flats and Hanford. Let's keep it that way.
2. There is so much about the potential risks that is unknown: It is not the time to proceed. It is unacceptable to have plutonium operations above the Ogallala Aquifer, and only one mile from where people live and work in a vibrant agricultural producing area.
3. There is valid, strong criticism of safety in the current storage of Plutonium at Pantex. Promises to improve safety conditions at the site have not happened. The U.S. Government Accounting Office and the Defense Nuclear Facilities Safety Board have both issued reports critical of plutonium storage safety at Pantex. If the DOE cannot accomplish the job of safely storing Pantex plutonium in the most stable environment, there is no reason to accept its unsubstantiated assurances to safely process deadly plutonium powders at Pantex.

Thank you for this opportunity to comment.

Sincerely,

Sr. Patricia Ridgley
Sr. Patricia Ridgley, SSMN

"We are called to be bridges between our own U.S. Church that sends us
and the local churches where we serve." - Maryknoll Mission Vision

MD041

MD041-1

DOE Policy

DOE acknowledges the commentor's opposition to Pantex as a candidate site for surplus plutonium disposition activities. Analyses in Chapter 4 of Volume I indicate that impacts of operating these facilities on health, safety, and the environment at Pantex would likely be minor. To avoid contamination that has occurred in the past at some DOE sites, DOE would design, build, and operate the proposed facilities in compliance with today's strict environmental, safety, and health requirements. Decisions on the surplus plutonium disposition program at Pantex will be based upon environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

MD041-2

Water Resources

DOE acknowledges the commentor's opposition to siting the proposed surplus plutonium disposition facilities at Pantex. As discussed in Section 4.26.3.2.2, there would be no discernible impacts on water quality from normal operation of these facilities. Other sections show, moreover, that the normal operation of these facilities would likely have minor impacts on human health, agriculture, and livestock: Sections 4.17.1.4 and 4.17.2.4 address the potential radiological and hazardous chemical effects of the maximum-impact alternative on workers and the public at Pantex; Appendix J.3, the potential contamination of agricultural products and livestock, and consumption of these products by persons living within an 80-km (50-mi) radius of Pantex.

MD041-3

DOE Policy

DOE acknowledges the commentor's concern regarding the storage of plutonium pits at Pantex. DOE is committed to the safe, secure storage of pits and is evaluating options for upgrades to Pantex Zone 4 facilities to address plutonium storage requirements. In addition, DOE has addressed some of the commentor's concerns in an environmental review concerning the repackaging of Pantex pits into a more robust container. This evaluation is documented in the *Supplement Analysis for: Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components—AL-R8 Sealed Insert Container* (August 1998). This document is on the MD Web site at <http://www.doe-md.com>. Based on this supplement analysis, the decision was made to repackage pits at Pantex into the AL-R8 sealed insert container and to discontinue plans to repackage pits into the AT-400A container.

Concerning the pit reprocessing (MOX conversion), I feel Pantex should be considered the #1 choice for the mission. I have worked at Pantex for 12 years and have been thoroughly impressed by the commitment of the employees and community in safety and environmental issues when performing a mission as well as performing the mission in a timely and efficient manner.

1

WD015

WD015-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at Pantex. However, to clarify, the pit conversion facility does not involve reprocessing plutonium. The facility would be used for disassembling pits and converting the recovered plutonium (as well as plutonium metal from other sources) into plutonium dioxide suitable for disposition. Similarly, the use of U.S. surplus plutonium in existing domestic, commercial reactors does not involve reprocessing (reprocessing is a chemical separation of uranium, transuranic elements [including plutonium], and fission products from spent reactor fuel and the reuse of the plutonium and uranium to produce new fresh fuel). Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

**Comment on the Location of the
Pit Disassembly Operation**

I am a degreed Industrial Engineer with 26 years experience in the manufacture of the various types of products including:

- ◆ Small AC Motors
- ◆ Large Steam Turbines
- ◆ Aluminum Reduction, Coil, Sheet, and Plate
- ◆ Industrial Water Filtration Equipment
- ◆ Solid Fuel Motors for C4, D5, MX, P2 Missiles and Space Craft
- ◆ Air Force C17 Transport Aircraft

For the last 4-1/2 years I have been employed at PANTEX. Naturally, as an Industrial Engineer, I have mentally compared the characteristics of PANTEX versus other employers I have worked for. Based on my substantial manufacturing experience, I present the following reasons why PANTEX should undoubtedly be selected as the site for the Pit Disassembly operation :

Quality of the workforce

The Production Technicians and other "hands-on" operations personnel are far superior to their counterparts at other manufacturing locations I have observed. They are highly trained. New employees are carefully monitored after initial training, and systems and procedures are in place to assure that they do not work on various operations until they are fully capable. They have an extremely strong "esprit de corps" which translates to pride in workmanship, plant mission, and dedication to their country. I have never seen such a high level of positive workplace interpersonal relationships. The education level of the workforce varies, but includes personnel working on Engineering and other degrees and those who already have a Bachelors Degree in Engineering.

Quality of work

The type of work performed here is very technical and precise, and the product generated by PANTEX continuously meets the high quality

1

FD243

FD243-1

Alternatives

DOE acknowledges the commentor's support of Pantex and appreciates the enumeration of reasons for siting the pit conversion and MOX facilities at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

parameters typically required for nuclear weapons. Quality is constantly emphasized and monitored and operations personnel stress it to each other. Management and other support functions have the same level of commitment and pride in high quality output.

Security

The superiority of the PANTEX security force is legend both within and outside the DOE complex. Due to their high emphasis on physical conditioning and continuous training and application of proven security principles, the members of this force are constantly alert and perform their duties in a highly professional and effective manner. Security is increasingly becoming more demanding in its requirements and the PANTEX Security force is the "best there is".

Workforce Experience

The PANTEX work force has decades of successful experience in nuclear weapons assembly and disassembly. This type of experience is rare and the numbers of personnel possessing it is limited. DOE should capitalize on this reserve of personnel with this rare type of qualification and utilize them and their skills in the Pit Disassembly operation which is closely related to work they are already performing. This factor cannot go unconsidered in the final selection process.

Community Support

For every public issue there are those who support it and those who oppose it along with others who either don't care or are not knowledgeable about the issue. The important factor is what portion of the public fall into each category. As a result of the Freedom of Speech, which all Americans possess, parties for and against an issue can proclaim their views in person, through displays, and through the news media. The news media generally present the views of each camp equally although one camp may be substantially smaller in number than the other. This can lead to misunderstanding by the public as to the amount of support that exists in the public domain for each side of the issue.

The fact of the matter regarding community support for the possible location of the Pit Disassembly operation at PANTEX is that support for locating it at PANTEX is overwhelmingly in favor of doing so. The

opposition is minute in comparison and, as it appears to me, is composed of some sincere local citizens along with a mixture of persons who are not from the Texas panhandle, possessing other "agendas" which might include trying to maintain an apparent need for them to remain in the area as an opposition force which also would assure them of a continued monthly pension from their parent organization.

Conclusion

The above factors make it extremely clear that the Pit Disassembly operation should be located at PANTEX. As you review these factors it should also become clear that an apparent mistake has been made concerning the DOE decision naming SRS as the preferred sit for the MOX facility. Politics should not enter into decisions concerning issues as critical as the location of Pit Disassembly and MOX operations. By locating both the MOX facility and Pit Disassembly facility at PANTEX, unnecessary possible hazardous transportation problems would be alleviated and the operations would be performed by a work force highly superior to those at any other DOE site. Please emphasize at the highest levels within DOE and Congress that truth cannot successfully be denied and the truth is that **THE PIT DISASSEMBLY OPERATION AND THE MOX FACILITY SHOULD BE LOCATED AT PANTEX.** This would be in the best interest of the United States of America.

William R. Henry
Sr. Project Engineer
PANTEX

FD243

Move ANY or ALL operations to Pantex. Count me as FOR | 1
Pantex Expansion. Thanks.

WD016

WD016-1

Alternatives

DOE acknowledges the commentor's support for the surplus plutonium disposition program at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

I believe since Plutonium was first made in a nuclear reactor, it should like wise be expended in a nuclear reactor. I would like to see Plutonium be processed into mixed oxide fuel for use in a nuclear reactor to produce electricity. Futhermore DOE should sell this fuel to reactor sites in the U.S. to try to defray any cost it has accrued in producing the fuel rods. I think Pantex site in Amarillo, Texas can do this for DOE in a safe and efficient manner and at substancially less cost than other DOE facilities. Please consider Pantex as a site for the pit disassembly and conversion process. I am a Pantex employee of 23+ years, and I can attest of our safe work practices. Thank you!
Leon E. Tomlinson

1

WD013

WD013-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion and MOX facilities at Pantex. Use of MOX fuel in domestic, commercial reactors is not proposed in order to generate electricity. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors.

DOE has identified as its preferred alternative the hybrid approach to surplus plutonium disposition. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium, as quickly as possible, in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS and Washington, D.C. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.



United States
Department
of Energy

Comment Form

NAME: (Optional) Donald Maxie

ADDRESS: 2108 S Hayden, Amarillo, Tex.

TELEPHONE: (806) 376-7413

E-MAIL: During the testimony from the public

We heard some about the effect on
property values with no information on
what effect if any it has had at the
site referenced in the testimony. As
an regulatory employee with the state
of Texas I heard many many people talk
about a new or expanded facility would damage property
values. I never saw it happen.

1

We also heard from an organization called
Senior Citizens Against Nuclear Dumping
or STAND. This organization is not
seriously against nuclear dumping. In
the time I've been in Amarillo they have
never been anything except against
Pantex. If they were serious about
nuclear dumping why haven't we
heard anything from them about the largest
stream of nuclear materials going into
the local landfills - smoke detectors
from households.

2

TXD20

TXD20-1

Socioeconomics

DOE acknowledges the commentor's observation concerning property values.

TXD20-2

Other

DOE acknowledges commentor's views. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

McKEEN, SHERRY
PAGE 1 OF 1

August 10, 1998

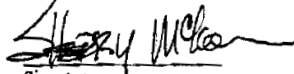
U.S. Department of Energy
Office of Fissile Materials Disposition
MD-4 Forrestal Building
1000 Independence Avenue, SW
Washington, D.C. 20585

As a citizen of Amarillo, I wish to express my feelings about the location of the disassembly and conversion of nuclear weapons plutonium components ("pits") at the Amarillo Pantex plant. I am totally in support of this function and hope you will consider the effort and the history of the Pantex plant in your decision making process for this site.

1

↓
opposed!!!

Sincerely,



Signature

Amarillo TX 79101

Address

FD131-1

Alternatives

DOE acknowledges the commentor's opposition to siting the pit conversion facility at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

FD131

3-857

Comment Documents—Texas

Dear Sirs

There are 2 main reasons the pit conversion project should be given to the Pantex Plant.

- *1 The work force at Pantex is dedicated to doing the best job possible for DOE and all others concerned with this mission
- *2 The pits are already stored here so why risk moving them to another site when Pantex can do the work here.

I have worked at Pantex 3 yrs and am truly convinced the mission would be a complete success if given to the people of the Panhandle area.

Thank you

If you have any questions for me please call

Leroy McMurry
Box 1503
Panhandle, Tx 79068
806 537 5703

TXD14

TXD14-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses (including analyses of transportation risks), technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions on facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

I support Pantex and the ability for them to safely dismantle the plutonium pits. I am certain that the contractor will be responsible and accountable to the landowners and the citizens of the area.

1

WD011

WD011-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

Subject: support for pit assembly


1

WD019

WD019-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

 **Question/ Information Request Card**

Name: ROBIN MILLS

Address: HCR 01 BOX 245A
PLAINVIEW TEXAS 79072

Phone: _____ Fax: _____

E-mail: _____

Question/ Request: WHAT IS THE RECORD OF SPILLS AND/OR CONTAMINATION AT OTHER SITES WORLDWIDE THAT HAVE PROCESSED PLUTONIUM.

1

For further information contact:
U.S. Department of Energy, Office of Fissile Materials Disposition, MD-4
Forrestal Building, 1000 Independence Ave., SW, Washington, D.C. 20585
1-800-820-5156

TXD13

TXD13-1

Other

The scope of this SPD EIS is focused on analysis of alternatives on whether and how much U.S. surplus plutonium should be used as MOX fuel, which technology should be used for immobilization, where to construct the proposed surplus plutonium disposition facilities that are needed, and where to perform lead assembly fabrication and testing.

Although, DOE does not have specific data on spills or contamination from plutonium processing in other countries, DOE has visited some of these European plants and will use any pertinent experience in the development of its proposed facilities.

MRD INVESTMENTS, L.L.C.
D. EDWARD AND MELVA M. DAVIS
PAGE 1 OF 1

MRD INVESTMENTS, L.L.C.

d/b/a MRD INVESTMENTS (In Missouri) MRDU INVESTMENTS, L.L.C. (In Texas)
905 S. Fillmore Suite 105
P.O. Box 2808
Amarillo, Texas 79101
Office (806) 376-9844 Fax (806) 376-8562

August 11, 1998

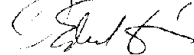
U.S. Department of Energy
Office of Fissile Materials Disposition
MD-4 Forrestal Building
1000 Independence Avenue, SW
Washington, DC 20585

Ladies and Gentlemen:


We are small business owners here in Amarillo and own several commercial office buildings as well as our home. We appreciate having Pantex located here and want you to know that we sincerely hope that Amarillo is the location chosen for the plant to disassemble and convert nuclear weapons plutonium components.

We intend to live in Amarillo for the rest of our lives and look forward to having Pantex be a vital part of our community.

Sincerely,



D. Edward Davis



Melva M. Davis

1

TXD01

TXD01-1

Alternatives

DOE acknowledges the commentors' support for siting the pit conversion facility at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

August 10, 1998

USDOE
Office of Isotope Materials Disposition
MD-4 Forrestal Building
1000 Independence Avenue, SW
Washington DC 20585

I live in Panhandle TX 10 east of Pantex Plant and work at the plant. I have been there since 1984 and hope to retire from Pantex.

I am totally in support of this function and hope you will consider the effort and the history of the Pantex Plant in your decision-making process for this site.

People of the Panhandle of Texas have an excellent track record. They are proud, dependable people on whom I'd be pleased to place the responsibility of this new effort. We would not let you down.

Sincerely,
Darlene Muna
Box 158
Panhandle TX 79068

TXD15

TXD15-1

Alternatives

DOE acknowledges the commentor's support of the surplus plutonium disposition program at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

1

NUNN ELECTRIC SUPPLY CORPORATION
JOE D. BREWTON
PAGE 1 OF 2

TEXAS
 Amarillo
 Abilene
 Austin
 Lubbock
 Odessa (Zimco)
 Midland (Buildere' Choice)

NUNN
NUNN ELECTRIC SUPPLY CORPORATION
 WHOLESALE  DISTRIBUTORS

NEW MEXICO
 Clovis
 Hobbs
 Roswell
 Alamogordo

August 5, 1998

The Department of Energy
 c/o Amarillo Chamber of Commerce
 P.O. Box 9480
 Amarillo, Texas 79105

Dear Sirs,

I am writing you this letter on behalf of the company I work for, Nunn Electric Supply Corporation. Nunn Electric has been a part of the Amarillo economy for more than 70 years and has been fortunate enough to do business with the Pantex facility for more than fifty of those. During that time, we have been directly involved with virtually every area of the Pantex plant and in most cases, three generations of workers. From our viewpoint, there is no industrial facility in this part of the country that has been as involved with the community and as concerned with safety as Pantex.

The plant has constantly concerned itself with liberal upgrades in all electrical areas of the plant. To that point, Pantex was the first DOE site to implement the use of "stand-by" HID lamps for security purposes, a procedure that is now commonplace throughout the nuclear complex as we understand it. They were also the first to use rechargeable alkaline batteries to reduce hazardous waste in that area. The same can be said for their use of low-mercury fluorescent and HID lamps, which again shows their commitment not only to a safe working environment, but the safety of the entire panhandle area as well.

These examples are but a few of the many electrical upgrades that Pantex has put into practice that we (as only one of hundreds of their vendors) know of. Pantex has an outstanding safety record with full-time union safety officers with whom these critical issues may be discussed and resolved. It is our understanding that the alternate site has nothing like this in place and no plans for it in the foreseeable future.

FD004

FD004-1

Alternatives

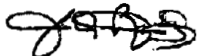
DOE acknowledges the commentator's support for siting the pit conversion facility at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

NUNN ELECTRIC SUPPLY CORPORATION
JOE D. BREWTON
PAGE 2 OF 2

On July 1, 1998 Nunn Electric was awarded the first Vendor Managed Inventory contract in the history of the DOE nuclear complex. The estimated cost-savings for electrical supplies and their related expenses for the first year will be in excess of \$500,00.00. We can think of no better way to demonstrate this facility's commitment to cost-savings and streamlined efficient management. To our knowledge, there is no another plant in this part of the panhandle that has exhibited such forward thinking.

We know that the plant enjoys the support of some 80% of the surrounding community and it is said that Pantex is ultimately responsible for one out of every ten jobs in this area. The influx of 450 new jobs with the PDCF located here would be an invaluable shot in the arm to our local economy. We would hope that the DOE would look most favorably on the selection of Pantex for the critical PDCF and consider the overall impact that placing this facility here at Pantex - the best location in the nuclear complex.

Most Cordially Yours,



Joe D. Brewton
Amarillo Division Manager

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FD004

Pantex doesn't deserve MOX

NORTH AUGUSTA, S.C. — I read your recent editorial regarding the public hearings for selecting the site for the Department of Energy's pit disassembly and conversion mission. These important hearings are being held at each of the potentially affected sites, but most significantly at Anapilto and in North Augusta, S.C.

I too encourage Panhandle residents to participate in this important decision. I also think it is important they not be blinded by the possibility of federal government dollars and jobs but really consider the facts and what is good for the country.

The disposition of surplus weapons-usable plutonium is an issue of international importance. We, in conjunction with the Russians, need to get on with this task in a safe and efficient manner.

I have worked in the plutonium processing area of the Savannah River Site for about 20 years. I am well aware of the technology, requirements and issues involved in plutonium disposition. Dismantling pits and converting the plutonium to an oxide is the necessary first step in the disposition process. Nothing else can happen until this occurs.

What is the best way to make this happen? Let's look at the facts.

Handling plutonium is a complicated task. The DOE sites which made and processed plutonium (Hanford, Rocky Flats and Savannah River) are all much larger and more complex operations than Pantex. Each of them has a legacy from the plutonium era which, in total, will cost all of us hundreds of billions of dollars to remediate and will take decades to complete.

Handling plutonium requires extensive support facilities, skills and oversight — generally called infrastructure. There are not "mod-

Auth: Joe Bush, Rick & Trent
Richard L. Geddes

est differences" between the plutonium infrastructure of Pantex and SRS, as DOE recently said. SRS is a 300-square-mile complex of 14,000 employees engaged in major nuclear processing operations. It has a fully integrated, self contained nuclear waste management system capable of handling all forms of nuclear waste, operates the nation's only tritium purification and loading operation, and will be the site of the next generation of tritium production.

SRS produced nearly half of the plutonium which is no longer needed. In 1997, DOE called SRS "a plutonium competent site with the most modern, state-of-the-art storage and processing facilities" in the complex.

Pantex has no experience, capability or infrastructure with plutonium, only in handling and storage of sealed plutonium weapons components.

Handling plutonium creates a costly future legacy. DOE needs to explain why it is considering creating a new plutonium processing site. The determination that the Pantex site is "equally preferred" for the pit disassembly and conversion mission represents a dramatic repudiation of DOE policy.

In 1996, DOE announced that "plutonium would not be introduced into a site that does not currently have a plutonium infrastructure because of the high cost and complexity of introducing plutonium operation into sites without current capabilities." With DOE engaged in a multi-decade program to downsize, consolidate and remediate existing plutonium sites, the wisdom of continuing this policy is

Consolidation of the three major elements of the Plutonium Disposition program (pit disassembly, MOX and immobilization) is intuitively cost-effective. How much can be saved is a point of contention, but the fact that savings will accrue from co-locating all facilities is indisputable.

Storage of sealed weapons components containing plutonium metal is very different than processing, packaging and shipping dispersible plutonium oxide. DOE is proposing to invent a new process, build a new facility, create and operate a plutonium infrastructure, and eventually clean up and remove a plutonium processing operation so it can make a larger number of shipments of dispersible plutonium oxide to Savannah River for disposition. Alternatively, DOE could pack the pits and ship them — fewer shipments, more safety. SRS can make storage available, and the processing and disposition of these pits is just an extension of routine operations.

What is the logic of locating this mission at Pantex? Technically, financially, safety-wise and environmental protection-wise, there is none.

Jobs and federal dollars — that's the issue. But is plutonium, with its proliferation and safety issues, the right arena to be searching for federal pork? Our collective good sense should tell us no.

The Globe-News said that Pantex "deserves" this mission for being such a good neighbor over the years. I'm sure it has been.

I wish the plant and its employees well. But for plutonium processing, I don't think so.

Richard L. Geddes of North Augusta, S.C. works in plutonium processing at the Savannah River Site.

Aug 16, 1998 Am. Gbl. News

*Jeri R. Osborne
CR 204 4-194 LTR*

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FD144-1

Other

DOE acknowledges receipt of the commentor's article. DOE acknowledges the commentor's support for siting the plutonium disposition facilities at SRS. Decisions on the siting of surplus plutonium disposition facilities will be based on environmental analyses, as well as technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

Surplus Plutonium Disposition Final Environmental Impact Statement



September 8, 1998

DOE Office of Fissile Material Disposition
c/o SPD EIS
U.S. Department of Energy
P.O. Box 23786
Washington, DC 20026-3786

ATTENTION: Bert Stevenson, NEPA Compliance Officer

Re: Comment on DOE's Draft Surplus Plutonium Disposition Environmental Impact Statement

Dear Mr. Stevenson:

We would like to take this opportunity to comment on DOE's *Draft Surplus Plutonium Disposition Environmental Impact Statement*. As co-chairs of Panhandle 2000, a group of Amarillo-area citizens interested in the environmentally sound retention and expansion of Pantex, we would like to express our support for siting the proposed new pit disassembly and conversion mission contemplated in this Draft PEIS at Pantex.

Throughout DOE's EIS process for pursuing plutonium storage and disposition options, the clearly identified goals have been to provide the highest level of security to minimize theft, diversion, or accidental exposure and to encourage Russia to reciprocate efforts to dispose of its plutonium in like manner. For these reasons, the preferred alternatives chosen in the *Record of Decision for the Storage and Disposition of Weapons-Usable Fissile Materials Environmental Impact Statement* chose a dual track approach of vitrification and MOX fuel fabrication. Viewing plutonium as an asset rather than waste provides the potential for taxpayers to recoup some economic benefit from their investment in the Cold War through use of MOX fuel in commercial reactors. Through this means, we are also encouraging Russia to dispose of their excess plutonium in a way that will provide them parallel economic nonproliferation benefits.

The Draft PEIS announced the Savannah River Site as the preferred location for the MOX fuel fabrication facility as well as the plutonium immobilization facility. Additionally, the Draft PEIS lists two alternatives for the siting pit disassembly and conversion. We would like to state for the record that we strongly support

MD168

MD168-1

Alternatives

DOE acknowledges the commentors' support for siting the pit conversion facility at Pantex. The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner, not to derive economic benefit from the use of MOX fuel. By working in parallel with Russia to reduce stockpiles of excess plutonium, the United States can reduce the chance that weapons-usable nuclear material could fall into the hands of terrorists or rogue states and help ensure that nuclear arms reductions will never be reversed.

Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

PANHANDLE 2000**JEROME W. JOHNSON ET AL.****PAGE 2 OF 3**

the alternative which proposes siting the plutonium disassembly and conversion facility at Pantex. | 1

The stated objective of disposing of excess plutonium is to reduce threat of international proliferation, as reaffirmed in President Clinton's 1993 Nonproliferation and Export Control Policy, the 1994 National Academy of Sciences report on plutonium management and disposition, and the January 1997 DOE report on Nonproliferation and Arms Control Assessment. The PEIS has apparently lost sight of this objective. Exposing plutonium to unnecessary transportation and the accompanying risks is inconsistent with this objective, but that is precisely the course of action contemplated by DOE if it chooses to site pit conversion at a site other than Pantex.

The argument for this alternative is compelling: Pantex currently serves DOE and the nation as the primary site for nuclear weapons dismantlement and safekeeping of weapons-ready nuclear materials. For over 40 years, the Pantex Plant has been in the business of taking weapons apart and demilitarizing their components. This mission is a natural and common-sense extension of what is already done at Pantex. Because it has always done this type of work, Pantex has a safe and solid history of strict production operations management, developed through years of experience handling more pits, more often than any other site.

Siting the disassembly and conversion plutonium at Pantex will eliminate the need for unnecessary transportation which poses a legitimate national and international threat. Transportation of pits from Pantex in unconverted form exposes them to potential theft, risk of accident and exposure, and costs associated with additional security measures and packaging. The recent aggression against our embassies abroad only serves to emphasize that we cannot afford to lower our guard against such threats. Indeed, we must be vigilant and mindful of the tremendous potential for harm that would result if classified nuclear materials were to fall into the wrong hands. Pantex has the most modern safeguards and security system, and the nation's top rated guard force. The plant's emergency management system was recognized as the "Standard Setter" after joint assessment by Defense Programs and Nonproliferation and National Security. As a result, classified weapons components located at Pantex are more threat-resistant than anywhere else in the complex. By performing pit disassembly at Pantex and then shipping demilitarized and unclassified plutonium oxide, DOE can eliminate these unnecessary risks. To abandon the record at Pantex and contemplate transfer of the pits to a site and facilities not accustomed to this function would precipitate the needless costs and risks associated with the transport and duplication of workers and facilities. | 2

Additionally, DOE cost estimates show that if the choice is made ignore the risks and package pits to transport them across the country, the price tag of | 3

MD168

MD168-2**Nonproliferation**

DOE acknowledges the commentors' support for Pantex and appreciates the input regarding the capabilities at the site. Minimizing transportation risk was one of the considerations in selecting both Pantex and SRS as the preferred sites for the pit conversion facility. Although siting the pit conversion facility at Pantex would reduce the transportation of pits in unconverted forms, the plutonium dioxide that is produced at the facility would still have to be transported to the immobilization and/or MOX facilities.

As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure.

MD168-3**Cost Report**

Because this comment relates directly to the cost analysis report, it has been forwarded to the cost analysis team for consideration. The *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, is available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS and Washington, D.C.

disassembly and conversion would increase by \$70 to \$85 million. It is doubtful whether this figure incorporates the considerable training cost that will be incurred to recreate the pit packaging and unpacking expertise that exists today only at Pantex. Furthermore, we are aware of claims being made by proponents of the Savannah River Site that siting disassembly and conversion in South Carolina would result in savings of nearly \$1.6 billion. Such claims are unsubstantiated and preposterous considering the total estimated cost of the entire mission, wherever located, equals \$920-\$980 million. We raise these issues to point out that, while many claims (factual and otherwise) are being made regarding the merits of different sites, one truth about costs remains. Plutonium pits are located at Pantex and moving them anywhere else for a mission that can be performed here creates unnecessary expense in terms of both dollars and the inherent proliferation risk to Texas and our country.

3

We regret that DOE did not attach this same logic for the MOX production facility. If it had, the arguments are clear for co-locating the pit conversion and MOX fuel fabrication facility at the existing pit storage site, the Pantex plant.


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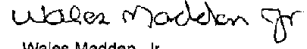
Finally, polls demonstrate the continued overwhelming support Pantex enjoys from local residents and state and federal elected officials. These surveys indicate that the plant enjoys support of more than 80% among the residents in the Amarillo area. Provided the new missions can be carried out safely and with minimal environmental impact, this support would reduce the potential for delay in proceeding with new disposition efforts. The plant also enjoys strong bipartisan support of the 32-member strong Texas Congressional Delegation. DOE must have broad-based political support for its plutonium disposition strategy to succeed. Placing pit disassembly at Pantex only strengthens that prospect.

1

For these reasons, Pantex clearly is the safest and best-suited alternative and we respectfully urge DOE to designate it as the preferred alternative site for the pit disassembly and conversion facility.

Yours truly,


Jerome W. Johnson
Co-Chair, Panhandle 2000


Wales Madden, Jr.
Co-Chair, Panhandle 2000

MD168

MD168-4

Alternatives

DOE acknowledges the commentors' support for collocating the pit conversion and MOX facilities at Pantex.

PANHANDLE AREA NEIGHBORS AND LANDOWNERS
DORIS AND PHILLIP SMITH
PAGE 1 OF 4

September 16, 1998

U. S. Department of Energy
Office of Fissile Materials Disposition
P.O. Box 23786
Washington, DC 20026-3786

Dear Sirs:

As Co-Chairs of the Panhandle Area Neighbors and Landowners (PANAL) Organization, we are writing to voice our concern with the Plutonium Pit Disassembly and Conversion facility which the DOE is considering locating at Pantex. Our organization of agricultural producers, processors, neighbors and community business leaders does not support any type of plutonium processing in this agricultural producing area of Texas.

Our products are sent world wide to feed the hungry and to clothe the peoples of the world - why, under any circumstances, would the DOE even consider placing such a devastating process in the midst of food production? Why would DOE jeopardize the people, land, water, air and the products that have made and continue to be the support for the Texas Panhandle? Why does DOE continue to harrass this community with such horrendous missions for Pantex without even one thought as to the damage which could be reaked on the High Plains of Texas. Do you not understand that we have a strong healthy relationship with the land and we strive constantly to keep this land free of contamination and in a wholesome condition suitable for producing food?

PANAL considers the Plutonium Pit Disassembly and Conversion Facility (PDCF) to be the most outrageous mission /facility to be forced on this community. Pantex has never processed plutonium and does not have the massive contamination problems as those sites which have handled this material processing. In the words of Ann Loadholt (Chair of the SRS CAB) *"Concerning pit disassembly...should Pantex be chosen...this decision would create a new plutonium processing site within a system endeavoring to consolidate operations for cost effectiveness, but most importantly, would increase the amount of cleanup that ultimately will be required."* When people from other areas even see the hypocrisy of the siting of these missions at Pantex, why does DOE not see this? Are you just not looking at all the issues or are you blinded by your own stupidity?

Pantex is a fraction of the size of other plutonium sites, new environmental risks associated with the processing of plutonium oxide powder, as well as health risks would be incurred by this community due to the close proximity of the people to the site. The unreported air contaminants of radioactive tritium and highly toxic beryllium would be pumped from a smokestack and fall on our Panhandle lands contaminating our products and livestock, thus making them unmarketable. Do you want another Russia on your hands? Their products are so contaminated by the nuclear weapons productions that the people cannot eat them and economic devastation is the result. Is that what DOE is trying to achieve here? Such negative consequences to people and the farmland are much more likely to occur on a small, open, windy site such as Pantex, than at a larger, more secluded site - a site large enough so that the smokestack will belch forth its bile on the site itself and not on the surrounding stakeholders and property.

Why do you think that plutonium processing can be done safely at Pantex when it has never been done safely or without contaminating the environment at any other DOE site? The technologies just are not there - the DOE has gone to great lengths to deceive the public with half truths and lies about new advancements in technologies, the result is increased distrust of DOE by our community of stakeholders. We have witnessed your actions over the past eight years, when we first became involved in this issue. DOE has assured the public of their openness and theory of public involvement, however DOE has failed miserably on both accounts. There is no openness and no effort to engage the public in "meaningful public participation".

MD284

MD284-1

Human Health Risk

DOE acknowledges the commentors' opposition to siting the pit conversion facility at Pantex. Although Pantex is smaller in overall size in comparison with the other candidate sites, analyses in Chapter 4 of Volume I indicate that impacts of operating the pit conversion facility on health, safety, and the environment at Pantex would likely be minor. Section 4.26.3.2 analyzes impacts to the environment (including contamination to the Ogallala aquifer) due to construction and normal operation of a pit conversion facility at Pantex. There would be no discernible contamination of aquatic biota (fish) or drinking water, either from the deposition of minute quantities of airborne contaminants into small water bodies or from potential wastewater releases. Therefore, it is estimated that no measurable component of the public dose would be attributable to liquid pathways. Appendix J.3 includes an analysis of potential contamination of agricultural products and livestock and consumption of these products by persons living within an 80-km (50-mi) radius of Pantex. If the proposed surplus plutonium disposition facilities were located at Pantex, a very small incremental annual dose to the surrounding public from normal operations would result via radiological emission deposition on agricultural products (i.e., food ingestion pathway). This dose (about 0.56 person-rem/yr) would be 0.0006 percent of the dose that would be incurred annually from natural background radiation.

Ingestion doses at Pantex were assessed for eight different food categories: leafy vegetables, root vegetables, fruits, grains, milk, meat, poultry, and eggs. Public doses incurred from the uptake of these foodstuffs were determined to be well below Federal, State, and local regulatory limits; therefore, potential radiological impacts to local prime farmlands would be essentially nonexistent.

While it is true that the pit conversion facility is the first consolidated facility for accomplishing this mission on a large scale, the processes that would be used in this facility are not entirely new. Many of these processes are in use at LANL and LLNL. In addition, DOE has recently started a pit disassembly and conversion demonstration project at LANL, where processes will be further developed and tested.

**PANHANDLE AREA NEIGHBORS AND LANDOWNERS
DORIS AND PHILLIP SMITH
PAGE 3 OF 4**

The siting of the PDCF over the Ogallala Aquifer, our source of water, is repugnant with DOE assertions of protecting the environment. Placing plutonium processing over the water supply of the Texas Panhandle and eleven other cities and towns further south is unacceptable. Pantex has already been the source of heavy contamination to the water source both beneath the site and offsite to the east on adjacent private property. To cleanup the aquifer is impossible, adding plutonium processing and associated wastes to the problem will only compound the contamination issue. What do you propose to prevent this further contamination to the Ogallala Aquifer from happening? What proven and demonstrated technologies do you claim will keep the Ogallala Aquifer from being contaminated?

3

Our community has been saddled with storage of plutonium pits in old, World War II bunkers which are not suitable for the storage of the most deadly material in the world. There are innumerable problems associated with the storage which have not been corrected - since the DOE has not accomplished this mission of safely storing the plutonium pits, then how in the world do you think you can safely process this material? We are tired of your claims, assertions and promises, just leave the Texas Panhandle alone, take care of the problems you now have at Pantex and do not dump anymore missions on this small site.

4

As the agricultural community which surrounds the Pantex site - we beg you to please use common sense in your decision of siting these new missions. We are laboring to produce food to feed and sustain the world, while you are producing weapons of mass destruction to kill and maim the world, this dichotomy has to end.

With the Cold War over, DOE is facing the time when this madness could all be stopped - do you have the courage and the integrity to be truthful to the American taxpayers and say ..this is the end, we will not waste more of your tax dollars - there will be no more weapons , no more processing - we are stopping...?

Thank you for the opportunity to comment.

Sincerely,



Doris and Phillip Smith, Co-Chairs
Panhandle Area Neighbors and Landowners

MD284

MD284-3**Water Resources**

DOE acknowledges the commentors' concerns regarding potential contamination of the Ogallala aquifer. As described in Section 4.17.2.2, wastes would be managed in accordance with current site practices. No radioactive or hazardous wastes would be disposed of at Pantex. Wastes would be treated and stored in accordance with all applicable regulations and permits. In addition, plutonium moves extremely slowly through soils and groundwater. In the unlikely event of an accident, plutonium would be contained in surface soils and remediated before it could travel into the Ogallala aquifer.

The remainder of this comment is addressed in response MD284-1.

MD284-4**DOE Policy**

To avoid contamination that has occurred in the past at some DOE sites, DOE would design, build, and operate the proposed surplus plutonium disposition facilities in compliance with today's strict environmental, safety, and health requirements.

DOE acknowledges the commentors' concern regarding the storage of plutonium pits at Pantex. DOE is committed to the safe, secure storage of pits and is evaluating options for upgrades to Pantex Zone 4 facilities to address plutonium storage requirements. DOE has addressed some of the commentor's concerns in an environmental review concerning the repackaging of Pantex pits into a more robust container. This evaluation is documented in the *Supplement Analysis for: Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components—AL-R8 Sealed Insert Container* (August 1998). This document is on the MD Web site at <http://www.doe-md.com>. Based on this supplement analysis, the decision was made to repackage pits at Pantex into the AL-R8 sealed insert container and to discontinue plans to repackage pits into the AT-400A container.

Worker exposure estimates attributable to the decision to repackage pits in AL-R8 sealed insert containers were incorporated in the revised Section 2.18 and Appendix L.5.1.

The issues raised in this comment relate to pit storage decisions made in the *Storage and Disposition PEIS* and the *Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components* (DOE/EIS-0225, November 1996). DOE is considering leaving the repackaged surplus pits in Zone 4 at Pantex for long-term storage. An appropriate environmental review will be conducted when the specific proposal for this change has been developed; addressing, for example, whether additional magazines need to be air-conditioned. The analysis in this SPD EIS assumes that the surplus pits are stored in Zone 12 in accordance with the ROD for the *Storage and Disposition PEIS*.

The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner.

I am a worker at Pantex and have been there for 17 years now and I wanted to say that I very much support the Surplus Plutonium Disposition Draft Environmental Impact Statement or commonly know as the Pit Disassembly at Pantex. Thank you. Tim Flowers

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WD018

WD018-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

I feel that Pantex is the best location for the pit disassembly and conversion facility. We are centrally located in the U.S. and we are the final disassembly point for the weapons; so the pits are already here. I have been with this company for seventeen years and it is very safety oriented. Also the citizens of Amarillo trust Pantex because of their long standing safety record. Thank you for considering our Pantex plant for this important job. Sincerely, Jim Harbin

1

WD001

WD001-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

Yes, my name is Hal Pedigrew. I live at 5501 Ranchview Drive in Amarillo. The area code is 79124 and I would like to get a copy of that documentation. I'd also like to voice my opinion that I would like to have that facility put anywhere else in the United States but here. Thank you.

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PD016

PD016-1

Alternatives

DOE acknowledges the commentor's opposition to siting the pit conversion facility at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

U.S. Department of Energy
Office of Fissile Materials Disposition
P.O. Box 23786
Washington, DC, 20026-3786

Dear Department of Energy, Office of Fissile Materials Disposition:

I do not support plutonium processing at the Pantex Plant. In the *Surplus Plutonium Disposition Draft Environmental Impact Statement*, the Department of Energy prudently decided against locating one plutonium processing facility (MOX fuel fabrication) at the Pantex Plant. For the following additional reasons, a Plutonium Pit Disassembly and Conversion facility also should not be located at Pantex:

Pantex Should Not Become the Next Rocky Flats

Pantex has never processed plutonium. The Pantex Superfund site has so far apparently escaped the type of radioactive contamination found at plutonium processing sites like Rocky Flats in Colorado and Hanford in Washington.

Risks That Are Unknown Are Too High

The Pantex Plant occupies an area that is a fraction of the size of other plutonium sites.

SIZE MATTERS: A Comparison of the Area of the Four Candidate Sites (Square Miles)			
Pantex	Savannah River Site	Idaho National Engineering Lab.	Hanford
23	309	890	560

The technologies proposed in the Plutonium Pit Disassembly and Conversion Facility are undemonstrated and unproven. It is unacceptable to have plutonium operations above the Ogallala Aquifer and only one mile from where people live and work in a vibrant agricultural producing area. The Pantex legacy already includes heavy contamination in a perched layer of groundwater less than one hundred feet above the Ogallala Aquifer. This pollution extends from under the Pantex Plant to adjacent private property and the real impacts remain unknown. The risk of any additional groundwater pollution is unacceptable in an agricultural region.

Common sense dictates that negative consequences to people and farmland from nuclear accidents are far more likely in a small, open, windy location like Pantex. The Department of Energy has acknowledged that the most visually unappealing feature of the plutonium facilities will be their smokestacks. Visual blight will be a minor inconvenience compared to the air pollutants--many of them radioactive--expected to escape into the atmosphere daily through smokestack filters. Routine air emissions of tritium, plutonium, americium, and beryllium constitute unacceptable new hazards to the Texas Panhandle.

MD114

MD114-1

Alternatives

DOE acknowledges the commentors' opposition to siting the proposed surplus plutonium disposition facilities at Pantex. Analyses in Chapter 4 of Volume I indicate that impacts of operating the proposed facilities on health, safety, and the environment at Pantex would likely be minor. To avoid contamination that has occurred in the past at some DOE sites, DOE would design, build, and operate the proposed facilities in compliance with today's strict environmental, safety, and health requirements. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

MD114-2

Human Health Risk

Although Pantex is smaller in overall size in comparison with the other candidate sites, analyses in Chapter 4 of Volume I indicate that impacts of operating the pit conversion facility on health, safety, and the environment at Pantex would likely be minor (e.g., see Section 4.6).

While it is true that the pit conversion facility is the first consolidated facility for accomplishing this mission on a large scale, the processes that would be used in this facility are not entirely new. Many of these processes are in use at LANL and LLNL. In addition, DOE has recently started a pit disassembly and conversion demonstration project at LANL, where processes will be further developed and tested.

Section 4.26.3.2 analyzes impacts to the environment (including contamination to the Ogallala aquifer) due to construction and normal operation of a pit conversion facility at Pantex. There would be no discernible contamination of aquatic biota (fish) or drinking water, either from the deposition of minute quantities of airborne contaminants into small water bodies or from potential wastewater releases. Therefore, it is estimated that no measurable component of the public dose would be attributable to liquid pathways. Appendix J.3 includes an analysis of potential contamination of agricultural products and

livestock and consumption of these products by persons living within an 80-km (50-mi) radius of Pantex. If the proposed surplus plutonium disposition facilities were located at Pantex, a very small incremental annual dose to the surrounding public from normal operations would result via radiological emission deposition on agricultural products (i.e., food ingestion pathway). This dose (about 0.56 person-rem/yr) would be 0.0006 percent of the dose that would be incurred annually from natural background radiation. This analysis indicates that impacts of operating the pit conversion facility on agricultural products, livestock, and human health at Pantex would likely be minor.

MD114-3

Human Health Risk

It is DOE policy to operate in compliance with all applicable air quality requirements and to protect human health and the environment. DOE takes into consideration pollution reduction techniques to minimize air releases when designing, constructing, and operating its facilities. It also considers aesthetic and scenic resources in the design, location, construction, and operation of facilities. Potential concentrations of air pollutants at Pantex for the various alternatives have been estimated, considering appropriate local meteorology and other data associated with the area. Because the releases from the pit conversion and MOX facilities would be very small (see Appendix J.3.1.4), estimates of resultant radiological health risks are small. As indicated in Section 4.17.2.4, the maximum possible dose delivered to a member of the public during normal operations of the MOX and pit conversion facilities at Pantex would be 0.068 mrem/yr, 0.02 percent of the dose that individual would receive annually from natural background radiation. The estimated dose to the public from radiological emissions (e.g., americium, tritium, and plutonium) would be 0.077 person-rem/yr which would result in an increase of 2.9×10^{-3} LCFs over the 10-year operating life of the pit conversion facility. Any new facilities that might be built would be within existing site boundaries, and would be matched aesthetically with the current plant to limit potential visual impacts.

**There is Valid, Strong Criticism of Safety
in the Storage of Plutonium at Pantex**

Since Pantex became the nation's long-term storage location for up to 20,000 plutonium pits, promises to improve safety conditions have not happened. The U.S. Government Accounting Office and the Defense Nuclear Facilities Safety Board have issued reports critical of plutonium storage safety at Pantex. Fifty million taxpayer dollars were spent on a failed plutonium pit container program (the AT-400A) and the plan to move over 10,000 pits into a safer remodeled building (Building 12-66) has also failed.

When it comes to plutonium pit storage problems, Panhandle residents are back to square one. The plutonium remains in old, unsuitable, corroding storage containers and in 35-55 year old "bunkers" that the Department of Energy promised were for "temporary" use. Plutonium that is supposed to be stored in a stable environment now sits in the bunkers--all but three without air conditioning--even as the Texas Panhandle experiences a spell of more than 40 consecutive days of 90+ degree temperatures, and more than 20 days this summer with thermometers registering 100+ degrees. If the Department of Energy cannot accomplish the job of safely storing Pantex plutonium in the most stable environment, there is no reason to accept its unsubstantiated assurances to safely process deadly plutonium powders at Pantex.

Thank you for this opportunity to comment.

Sincerely:

Please do not process plutonium at Pantex! Our water from the Ogallala Aquifer is the life blood of our nation's bread basket! 35% of the U.S. supply of beef is produced in the Texas Panhandle. Our crops, our livestock, and we depend on that water! No to Plutonium Processing!

4

5

MD114

MD114-4

DOE Policy

DOE acknowledges the commentors' concern regarding the storage of plutonium pits at Pantex. DOE is committed to the safe, secure storage of pits and is evaluating options for upgrades to Pantex Zone 4 facilities to address plutonium storage requirements. DOE has addressed some of the commentor's concerns in an environmental review concerning the repackaging of Pantex pits into a more robust container. This evaluation is documented in the *Supplement Analysis for: Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components—AL-R8 Sealed Insert Container* (August 1998). This document is on the MD Web site at <http://www.doe-md.com>. Based on this supplement analysis, the decision was made to repackage pits at Pantex into the AL-R8 sealed insert container and to discontinue plans to repackage pits into the AT-400A container.

Worker exposure estimates attributable to the decision to repackage pits in AL-R8 sealed insert containers were incorporated in the revised Section 2.18 and Appendix L.5.1.

The issues raised in this comment relate to pit storage decisions made in the *Storage and Disposition PEIS* and the *Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components* (DOE/EIS-0225, November 1996). DOE is considering leaving the repackaged surplus pits in Zone 4 at Pantex for long-term storage. An appropriate environmental review will be conducted when the specific proposal for this change has been developed; addressing, for example, whether additional magazines need to be air-conditioned. The analysis in this SPD EIS assumes that the surplus pits are stored in Zone 12 in accordance with the ROD for the *Storage and Disposition PEIS*.

MD114-5

Human Health Risk

This comment is addressed in responses MD114-1 and MD114-2.



August 25, 1998

DOE Office of Fissile Material Disposition
 c/o SPD EIS
 U.S. Department of Energy
 P. O. Box 23786
 Washington, DC 20026-3786
 ATTENTION: Mr. Bert Stevenson, NEPA Compliance Officer

Re: DOE's Draft Surplus Plutonium Disposition Environment Impact Statement

Dear Mr. Stevenson:

First and foremost, we are adamant that any current and future functions at Pantex be conducted in a safe and environmentally sound manner. Our first priority is to ensure that expansion at Pantex does not impair the health or safety of area residents or have an adverse effect on the environment. These goals serve as a prerequisite to any current or future activities at Pantex.

1

We are aware that DOE has selected the Savannah River Site (SRS) as the preferred alternative for the MOX fuel fabrication facility and is considering SRS, along with Pantex, as the location for the disassembly/conversion mission.

We wish to focus my comments on the selection of Pantex as the preferred site for locating the plutonium pit disassembly and conversion facility. We are concerned that locating the conversion mission at a site other than Pantex would not only increase the hazards of dealing with plutonium but would also ignore the facts that make Pantex the site most capable of ensuring that disposition goals are met with the utmost attention to economic and safety considerations.

2

MD122

MD122-1

Alternatives

According to the analyses reflected in Sections 4.6 through 4.8, environmental impacts of the proposed action on Pantex under any alternative would likely be minor. DOE is committed to ensuring that public health and safety are protected wherever the proposed surplus plutonium disposition facilities are located.

MD122-2

Alternatives

DOE acknowledges the commentors' support for siting the pit conversion facility at Pantex. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure.. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

POTTER COUNTY
HONORABLE ARTHUR WARE ET AL.
PAGE 2 OF 2

When considering the proliferation risks involved in unnecessarily transporting a large number of classified plutonium pits across the country from Pantex, it makes budgetary and policy sense to site disposition functions where storage already exists. First, due to its cheaper labor costs and utility rates, and water and land availability, Pantex clearly is the most cost-effective site over the life of the program than any other site under consideration. Second, transportation of plutonium in non-classified form (after disassembly and conversion at Pantex) to the SRS is far preferable to the perils that would be incurred by shipping plutonium in a weapons-ready form. Pantex has the necessary safety, security, and surveillance capabilities to accommodate an expanded role. Third, it is in the best interests of the United States to engage Russia in bilateral demilitarization and inspections independent of the politically contentious MOX fuel fabrication process. It will also be much easier to track converted plutonium pits for IAEA and international inspections if these activities are undertaken at the site of original pit storage.

The Pantex plant enjoys tremendous public and bipartisan political support for new missions and could provide them at the lowest additional costs to the taxpayers. To accomplish its disposition goals, DOE must have strong, broad-based political support. Bringing in the support of Texas Senators and Congressmen will help ensure that DOE disposition initiatives succeed.

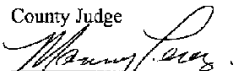
Bases upon these reasons, we respectfully urge DOE to designate Pantex as the site for the pit assembly and conversion facility.

2

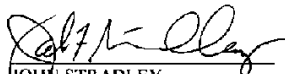
Sincerely,



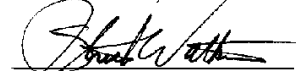
Arthur Ware
County Judge



MANNY PEREZ,
COMMISSIONER, PRECINCT 2



JOHN STRADLEY,
COMMISSIONER, PRECINCT 1



STRICK WATKINS,
COMMISSIONER PRECINCT 3

MD122

I am very much in favor of having the pit disassembly and conversion at Pantex where it will be done right the first time.

1

WD009

WD009-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

August 10, 1998

U. S. Department of Energy
Office of Fissile Materials Disposition c/o SPDEIS
Box 23786
Washington, DC 20026-3786

REF: Location of Pit Disassembly and Conversion Facility

As an employee at the Pantex Plant in Amarillo, Texas, and a long term resident of the Amarillo, Texas, I want to see the pit conversion work done at Pantex.

This is not just a personal issue. The real consideration should be safety, and of the two possible sites, Pantex is the safer facility. This can easily be confirmed by reviewing existing records for both facilities. At times it has almost seemed like Pantex was overlooked for additional weapons-related work because we are such a clean site.

The safety record is directly attributable to the efforts of plant employees, who have worked very hard through the years to meet or exceed requirements. Even in the years before the creation of the various oversight agencies such as OSHA, the plant functioned safely. The technical skills of the employees who do hands on weapon work is another reason for the excellent record.

The fact that Texas is not as strong politically -- we don't have aggressive PACs or Strom Thurmond fighting for us -- should not be the major deciding point. As a matter of fact, maybe politics should be left out of it altogether.

The Pantex Plant has provided jobs for my family since 1980, and I hope that it will continue to provide employment for me and many others in the future. The Pantex Plant now has thousands of pits stored. Why risk shipping these items to another location? Why increase the cost to do the job?

I sincerely hope that the DOE will look at all issues with an open mind with the major consideration being safety. The second and third considerations should be the technical skill of the employees, and the last consideration should be cost. If these things are considered without PAC or other political influence, the only logical choice is for the pit conversion to be done at the Pantex Plant.

Respectfully submitted,


Don Ray

MD024

MD024-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at Pantex. DOE believes that all the candidate sites are suitable from an operational, community support, and safety standpoint.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS and Washington, D.C.

Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses (including analyses of transportation risks), technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

1901 PHILADELPHIA ST.
AMARILLO, TEXAS 79103
AUGUST 10, 1998

U.S. DEPARTMENT OF ENERGY
OFFICE OF FISSIONABLE MATERIALS DISPOSITION
MD-4 FORRESTAL BUILDING
1000 INDEPENDENCE AVE., SW
WASHINGTON, D.C. 20585

DEAR SIR:

AS A CITIZEN OF AMARILLO, WE URGE YOU TO LOCATE THE PIT DISASSEMBLY AND
CONVERSION FACILITY AT THE PANTEX PLANT FOR ECONOMICAL AND SAFETY REASONS.

PANTEX ALREADY HAS ADEQUATE STORAGE SPACE FOR THE CONVERTED PLUTONIUM THAT
WOULD BE VERY EXPENSIVE TO CONSTRUCT ELSE WHERE AND WILL NOT ENTAIL TRANS-
PORTING THE 'PITS' ACROSS THE COUNTRY, WHICH IS COSTLY AND SUSCEPTABLE TO
TRANSPORTATION ACCIDENTS.

PANTEX PLANT EMPLOYEES HAVE MORE EXPERIENCE HANDLING PLUTONIUM PITS THAN
ANY OTHER D.O.E. SITE AND HAS AN OUTSTANDING SAFETY RECORD. ALSO PANTEX
ALREADY HAS TRAINED TECHNICAL PERSONNEL THAT ARE CERTIFIED TO PERFORM THE
'GLOVEBOX' WORK REQUIRED FOR THIS TYPE WORK.

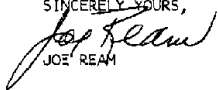
1

SECURITY AT THE PANTEX PLANT IS SECOND TO NONE COMPARED TO ALL THE OTHER
DEPARTMENT OF ENERGY FACILITIES.

THE PANTEX PLANT ALSO HAS THE SUPPORT OF THE RESIDENTS OF THE COMMUNITY
AND THE LOCAL AND STATE ELECTED OFFICIALS ALONG WITH THE TEXAS CONGRESSIONAL
DELEGATION.

AGAIN, WE SINCERELY URGE YOU TO LOCATE THE PIT DISASSEMBLY AND CONVERSION
FACILITY AT THE PANTEX PLANT.

SINCERELY YOURS,


JOE REAM

JR/L

FD150

FD150-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

REAM, OLETA
PAGE 1 OF 1

AUGUST 11, 1998

U.S. DEPARTMENT OF ENERGY
OFFICE OF FISSILE MATERIALS DISPOSITION
MD-4 FORRESTAL BUILDING
1000 INDEPENDENCE AVE., SW
WASHINGTON, DC 20585

DEAR SIRs:

I AM A LONG TIME RESIDENT OF AMARILLO AND FULLY SUPPORT
YOUR LOCATING THE PIT DISASSEMBLY AND CONVERSION FACILITY | 1
AT THE PANTEX PLANT LOCATED NEAR AMARILLO, TEXAS.

SINCERELY,

Olita Ream

OLETA REAM
1901 PHILADELPHIA
AMARILLO, TEXAS 79103

FD232

FD232-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

U.S. Department of Energy
Office of Fissile Materials Disposition
P.O. Box 23786
Washington, DC, 20026-3786

Dear Department of Energy, Office of Fissile Materials Disposition:

I do not support plutonium processing at the Pantex Plant. In the *Surplus Plutonium Disposition Draft Environmental Impact Statement*, the Department of Energy prudently decided against locating one plutonium processing facility (MOX fuel fabrication) at the Pantex Plant. For the following additional reasons, a Plutonium Pit Disassembly and Conversion facility also should not be located at Pantex:

Pantex Should Not Become the Next Rocky Flats

Pantex has never processed plutonium. The Pantex Superfund site has so far apparently escaped the type of radioactive contamination found at plutonium processing sites like Rocky Flats in Colorado and Hanford in Washington.

Risks That Are Unknown Are Too High

The Pantex Plant occupies an area that is a fraction of the size of other plutonium sites.

SIZE MATTERS: A Comparison of the Area of the Four Candidate Sites (Square Miles)			
Pantex	Savannah River Site	Idaho National Engineering Lab.	Hanford
23	309	890	560

The technologies proposed in the Plutonium Pit Disassembly and Conversion Facility are undemonstrated and unproven. It is unacceptable to have plutonium operations above the Ogallala Aquifer and only one mile from where people live and work in a vibrant agricultural producing area. The Pantex legacy already includes heavy contamination in a perched layer of groundwater less than one hundred feet above the Ogallala Aquifer. This pollution extends from under the Pantex Plant to adjacent private property and the real impacts remain unknown. The risk of any additional groundwater pollution is unacceptable in an agricultural region.

Common sense dictates that negative consequences to people and farmland from nuclear accidents are far more likely in a small, open, windy location like Pantex. The Department of Energy has acknowledged that the most visually unappealing feature of the plutonium facilities will be their smokestacks. Visual blight will be a minor inconvenience compared to the air pollutants--many of them radioactive--expected to escape into the atmosphere daily through smokestack filters. Routine air emissions of tritium, plutonium, americium, and beryllium constitute unacceptable new hazards to the Texas Panhandle.

MD063

MD063-1

Alternatives

DOE acknowledges the commentor's opposition to siting the proposed surplus plutonium disposition facilities at Pantex. As described in Chapter 4 of Volume I and summarized in Section 2.18, potential impacts of any of the proposed activities during routine operations at any of the candidate sites would likely be minor. To avoid contamination that has occurred in the past at some DOE sites, DOE would design, build, and operate the proposed surplus plutonium disposition facilities in compliance with today's strict environmental, safety, and health requirements. Decisions on the surplus plutonium disposition program at Pantex will be based upon environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

MD063-2

Human Health Risk

Although Pantex is smaller in overall size in comparison with the other candidate sites, analyses in Chapter 4 of Volume I indicate that impacts of operating the pit conversion facility on health, safety, and the environment at Pantex would likely be minor (e.g., see Section 4.6).

While it is true that the pit conversion facility is the first consolidated facility for accomplishing this mission on a large scale, the processes that would be used in this facility are not entirely new. Many of these processes are in use at LANL and LLNL. In addition, DOE has recently started a pit disassembly and conversion demonstration project at LANL, where processes will be further developed and tested.

Section 4.26.3.2 analyzes impacts to the environment (including contamination to the Ogallala aquifer) due to construction and normal operation of a pit conversion facility at Pantex. There would be no discernible contamination of aquatic biota (fish) or drinking water, either from the deposition of minute quantities of airborne contaminants into small water bodies or from potential wastewater releases. Therefore, it is estimated that no measurable component of the public dose would be attributable to liquid pathways. Appendix J.3

includes an analysis of potential contamination of agricultural products and livestock and consumption of these products by persons living within an 80-km (50-mi) radius of Pantex. If the proposed surplus plutonium disposition facilities were located at Pantex, a very small incremental annual dose to the surrounding public from normal operations would result via radiological emission deposition on agricultural products (i.e., food ingestion pathway). This dose (about 0.56 person-rem/yr) would be 0.0006 percent of the dose that would be incurred annually from natural background radiation. This analysis indicates that impacts of operating the pit conversion facility on agricultural products, livestock, and human health at Pantex would likely be minor.

MD063-3

Human Health Risk

It is DOE policy to operate in compliance with all applicable air quality requirements and to protect human health and the environment. DOE takes into consideration pollution reduction techniques to minimize air releases when designing, constructing, and operating its facilities. It also considers aesthetic and scenic resources in the design, location, construction, and operation of facilities. Potential concentrations of air pollutants at Pantex for the various alternatives have been estimated, considering appropriate local meteorology and other data associated with the area. Because the releases from the pit conversion and MOX facilities would be very small (see Appendix J.3.1.4), estimates of resultant radiological health risks are small. As indicated in Section 4.17.2.4, the maximum possible dose delivered to a member of the public during normal operations of the MOX and pit conversion facilities at Pantex would be 0.077 mrem/yr, 0.02 percent of the dose that individual would receive annually from natural background radiation. The estimated dose to the public from radiological emissions (e.g., americium, tritium, and plutonium) would be 0.58 person-rem/yr which would result in an increase of 2.9×10^{-3} LCFs over the 10-year operating life of the pit conversion facility. Any new facilities that might be built would be within existing site boundaries, and would be matched aesthetically with the current plant to limit potential visual impacts.

**There is Valid, Strong Criticism of Safety
in the Storage of Plutonium at Pantex**

Since Pantex became the nation's long-term storage location for up to 20,000 plutonium pits, promises to improve safety conditions have not happened. The U.S. Government Accounting Office and the Defense Nuclear Facilities Safety Board have issued reports critical of plutonium storage safety at Pantex. Fifty million taxpayer dollars were spent on a failed plutonium pit container program (the AT-400A) and the plan to move over 10,000 pits into a safer remodeled building (Building 12-66) has also failed.

When it comes to plutonium pit storage problems, Panhandle residents are back to square one. The plutonium remains in old, unsuitable, corroding storage containers and in 35-55 year old "bunkers" that the Department of Energy promised were for "temporary" use. Plutonium that is supposed to be stored in a stable environment now sits in the bunkers--all but three without air conditioning--even as the Texas Panhandle experiences a spell of more than 40 consecutive days of 90+ degree temperatures, and more than 20 days this summer with thermometers registering 100+ degrees. If the Department of Energy cannot accomplish the job of safely storing Pantex plutonium in the most stable environment, there is no reason to accept its unsubstantiated assurances to safely process deadly plutonium powders at Pantex.

Thank you for this opportunity to comment.

Sincerely:



Don't risk The Ogallala for your
Short-sighted money-making schemes!
Your greed + disregard for human
life and The health of The
environment SICKENS me.



MD063

4

5

MD063-4

DOE Policy

DOE acknowledges the commentor's concern regarding storage of plutonium pits at Pantex. DOE is committed to the safe, secure storage of pits and is evaluating options for upgrades to Pantex Zone 4 facilities to address plutonium storage requirements. DOE has addressed some of the commentor's concerns in an environmental review concerning the repackaging of Pantex pits into a more robust container. This evaluation is documented in the *Supplement Analysis for: Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components—AL-R8 Sealed Insert Container* (August 1998). This document is on the MD Web site at <http://www.doe-md.com>. Based on this supplement analysis, the decision was made to repackage pits at Pantex into the AL-R8 sealed insert container and to discontinue plans to repackage pits into the AT-400A container.

Worker exposure estimates attributable to the decision to repackage pits in AL-R8 sealed insert containers were incorporated in the revised Section 2.18 and Appendix L.5.1.

The issues raised in this comment relate to pit storage decisions made in the *Storage and Disposition PEIS* and the *Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components* (DOE/EIS-0225, November 1996). DOE is considering leaving the repackaged surplus pits in Zone 4 at Pantex for long-term storage. An appropriate environmental review will be conducted when the specific proposal for this change has been developed; addressing, for example, whether additional magazines need to be air-conditioned. The analysis in this SPD EIS assumes that the surplus pits are stored in Zone 12 in accordance with the ROD for the *Storage and Disposition PEIS*.

MD063-5

DOE Policy

DOE is committed to public and worker safety during the construction, operation, and deactivation of the proposed surplus plutonium disposition facilities, and would implement appropriate controls and procedures to ensure compliance with all applicable Federal, State, and local laws, rules, regulations, and requirements.

The remainder of this comment is addressed in response MD063-2.

U.S. Department of Energy
Office of Fissile Materials Disposition
P. O. Box 23786
Washington, DC, 20026-3786

Dear Department of Energy, Office of Fissile Materials Disposition:

In the *Surplus Plutonium Disposition Draft Environmental Impact Statement*, the Department of Energy proposes to build new plutonium processing facilities and dispose of 55 tons of "surplus" plutonium. I ask that the following comments reflecting my concerns and reservations regarding these proposals be incorporated into the decisions made for the plutonium disposition program.

Immobilize

The objective of plutonium disposition is to make weapons-usable plutonium as inaccessible for reuse in nuclear weapons as the plutonium in irradiated nuclear fuel, and to do so in a timely and safe manner. For the following reasons the Department of Energy should choose to immobilize all surplus plutonium and consider the possibility of doing this at more than one location:

- Immobilizing all plutonium is a safer option because it involves less handling, processing, and transporting of plutonium and other radioactive materials, and is less expensive because it involves fewer new facilities and avoids the costs of subsidizing the nuclear industry. These same factors would allow disposition to occur in a much more timely manner;
- According to the Department of Energy's own studies, the "ceramification can-in-canister" approach to immobilization results in a waste product that is more resistant to theft, diversion, and reuse than irradiated mixed oxide (MOX) fuel;
- The immobilization approach does not involve increasing the risk to persons living near nuclear reactors because it avoids burning—for the first time ever—large amounts of weapons-grade plutonium.

If delays arise in the immobilization program, the Department of Energy should insure that:

- Tons of presently unstable plutonium oxide scheduled for immobilization are put in a safer, more stable form suitable for storage, inventory, and international inspection;
- The objective of interim demilitarization of currently stable forms of plutonium, such as plutonium in pits, must be the minimal alteration of its current form necessary for safe storage, inventory, and international inspection.

No To MOX

The ill-conceived mixed oxide (MOX) fuel option should be rejected because there is no rational justification to convert stable plutonium to less stable, more dangerous plutonium oxide powder for use in MOX fuel, and then subsidize the nuclear industry to irradiate the fuel in aging nuclear reactors. Now that it appears obvious that producing plutonium oxide powder suitable for use in MOX fuel will require liquid acid plutonium processing, the MOX option is a proven threat to human health and the environment.

The United States' rationale that it must choose the MOX option to appease Russia is unsubstantiated and flawed in several respects:

- There is little support for a plutonium fuel economy in Russia, where people voting in public referendums have overwhelmingly rejected new nuclear developments;

MD064

MD064-1

Immobilization

DOE acknowledges the commentor's support for the immobilization approach to surplus plutonium disposition. However, DOE has identified as its preferred alternative the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

Multiple immobilization facilities would be very costly and time-consuming to implement, and therefore were not considered as an option in the SPD EIS. With only 50 t (55 tons) of surplus plutonium to disposition, it would not be practical to construct and operate more than one immobilization facility, even if the decision were made to immobilize all the surplus plutonium.

Use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. NAS identified that the Spent Fuel Standard could be met through disposition by either the immobilization or MOX approach. The MOX facility would produce nuclear fuel that would displace LEU fuel that utilities would have otherwise purchased. If the effective value of the MOX fuel exceeds the cost of the LEU fuel that it displaced, then the contract provides that money would be paid back to the U.S. Government by DCS based on a formula included in the DCS contract. The commercial reactors selected for the MOX approach include only those reactors whose operational life is expected to last beyond the life of the surplus plutonium disposition program.

NAS is currently conducting studies to confirm the ability of the ceramic can-in-canister immobilization approach to meet the Spent Fuel Standard.

This SPD EIS analyzes the potential environmental impacts associated with implementing the proposed surplus plutonium disposition activities at the candidate sites. The results of these analyses, presented in Chapter 4 of Volume I and summarized in Section 2.18, demonstrate that the activities would likely have minor impacts on the health, safety and environment at any of the candidate sites, including transportation impacts. Section 4.28 was revised to provide reactor-specific analyses and discuss the potential environmental impacts of using a partial MOX core during routine operations and reactor accidents.

MD064-2

DOE Policy

Surplus plutonium dioxide would be stabilized in conformance with DNFSB Recommendation 94-1 prior to being immobilized under the surplus plutonium disposition program. As discussed in Section 2.4, secure storage and monitoring provisions, including international inspection, and other safeguards will be integral components of the proposed facilities.

DOE is committed to the safe, secure storage of these pits and is evaluating options for upgrades to Pantex Zone 4 facilities to address plutonium storage requirements. Evaluation of repackaging Pantex pits into a more robust container is documented in the *Supplement Analysis for: Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components—AL-R8 Sealed Insert Container* (August 1998). This document is on the MD Web site at <http://www.doe-md.com>. Based on this supplement analysis, the decision was made to repackage pits at Pantex into the AL-R8 sealed insert container and to discontinue plans to repackage pits into the AT-400A container.

MD064-3

MOX Approach

DOE acknowledges the commentor's opposition to the MOX approach. The *Joint Statement of Principles* signed by Presidents Clinton and Yeltsin in September 1998 provide general guidance for achieving the objectives of a future bilateral agreement to disposition surplus plutonium in the

United States and Russia. Sensitive negotiations between the two countries have indicated that the Russian government accepts the technology of immobilization for low-concentration, plutonium-bearing materials, but that the MOX approach would be considered for higher-purity feed materials.

Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

The addition of the plutonium-polishing process was analyzed and a description of the potential environmental impacts was added to the impact sections presented for the MOX facility in Chapter 4 of Volume I. As indicated by the analyses, the addition of this process is not expected to materially affect human health of the population living within 80 km (50 mi) of the candidate sites. For example, the annual dose associated with operating the MOX facility is expected to increase by between 0.017 and 0.18 person-rem/yr for the population living within 80 km (50 mi) of the candidate sites.

The remainder of this comment is addressed in response MD064-1.

- The argument that the Russian government opposes immobilization because the plutonium is more easily retrieved is undermined by the fact that irradiated MOX fuel is easier to re-use in nuclear weapons than the ceramification can-in-canister disposition approach;
- The United States should not be encouraging Russia to develop MOX capability due to the uncertainties produced by the U.S. underwriting costs of a Russian infrastructure to reprocess plutonium;
- Russia's choice of technology should not determine the U.S. choice. The governments themselves have recognized this, as in the United States-Russian Joint Plutonium Disposition study in 1996, which found that, "The United States and Russia need not use the same plutonium disposition technology. Indeed, given the very different economic circumstances, nuclear infrastructures, and fuel cycle policies in the two countries, it is likely that the best approaches will be different in the two countries."

3

Already, politically powerful voices are suggesting that United States policy regarding plutonium be re-examined. By establishing a new level of plutonium processing infrastructure which encourages plutonium commerce, U.S. non-proliferation policy is clearly undermined.

Inform People of the Real Hazards, Risks, and Uncertainties

The Department of Energy has not fulfilled its legal obligation to fully inform people of the real risks, hazards, uncertainties and long-term implications of processing tons of plutonium powder that is hazardous to human health at the scale of micrograms. This latest voluminous, and largely unreadable, environmental document does not even contain the most basic information about hazards, such as the expected quantities of radioactive air pollutants. Instead, the public is forced to follow a paper maze if the information is available at all.

4

The Department of Energy must admit that the real hazards and risks are largely unknown, and that uncertainty is the only constant at this time. There is only one mixed oxide (MOX) fuel plant currently operating at the capacity proposed by this document—100 tons of MOX fuel fabricated per year—and that facility uses reactor-grade plutonium. No MOX fuel from weapons-grade plutonium has ever been fabricated or used on an industrial scale, and no weapons-grade plutonium has ever been immobilized on an industrial scale. The plutonium pit disassembly and conversion plant would be a first-of-its-kind facility utilizing unproven technologies that are controversial even within the nuclear establishment.

5

6

To compound the uncertainties, the Department of Energy plutonium disposition plan is not a model for success. Under the existing proposals, the Department of Energy would design facilities requiring unproven technologies while the technology demonstration and testing is ongoing, and begin facility construction before finishing their design. The Department of Energy has followed this model of development before and the result has always been cost overruns, delays, unexpected negative impacts on human health and the environment, and massive waste of taxpayer dollars.

7

Thank you for this opportunity to comment.

Sincerely,

We don't need more radioactive waste! We do not need more nuclear power. There is nowhere to put the waste we have. No to MOX- No to further subsidization of the nuclear power industry! This is crazy.

8

MD064

MD064-4

General SPD EIS and NEPA Process

DOE has prepared this SPD EIS in accordance with the provisions of NEPA (42 U.S.C. 4321 et seq.) and the related CEQ and DOE implementation regulations (40 CFR 1500 through 1508 and 10 CFR 1021, respectively). It is intended as a source of environmental information for the DOE decisionmakers and the public. The primary objective of the EIS is a comprehensive description of proposed surplus plutonium disposition actions and alternatives and their potential environmental impacts. As with any EIS, technical information is included to the extent that it is required to understand those actions and impacts. Other data were added in the course of the EIS development—for example, expected radiological release quantities, including airborne releases, in Appendix J. Additional technical information concerning the proposed facilities is given in various data reports reflected in the list of references for Chapter 2 of Volume I. These referenced materials are available in DOE reading rooms.

MD064-5

MOX Approach

The commentor is correct that MOX fuel is not widely produced; however, the process is similar to production of LEU fuel. In fact, after the uranium and plutonium oxide powders are blended, the MOX fuel fabrication process is essentially identical to LEU fuel fabrication. While weapons-grade plutonium is currently used in MOX fuel, its behavior in fuel is essentially the same as that of non-weapons origin plutonium, and so does not present a situation different from MOX fuel experience to date. In addition, a limited number of MOX fuel assemblies would be irradiated and tested in accordance with NRC requirements to verify acceptability prior to fabricating the fuel on a larger scale for insertion into the reactors. NRC will also license the MOX facility under 10 CFR 70, and be responsible for issuing operating license amendments under 10 CFR 50 for the domestic, commercial reactors that have been selected to irradiate the MOX fuel. There are always uncertainties involved with construction projects and startup of new facilities and processes. However, DOE has considered the uncertainties in its evaluations and determined that MOX fuel fabrication for use in commercial reactors is a viable option to surplus plutonium disposition.

MD064-6

Pit Disassembly and Conversion

While it is true that the pit conversion facility is the first consolidated facility for accomplishing this mission on a large scale, the processes that would be used in this facility are not entirely new. Many of these processes are in use at LANL and LLNL. However, to ensure successful transition to full-scale operation, DOE is testing these components as an integrated system at LANL. This pit disassembly and conversion demonstration is focusing on equipment design and process development and will provide information for fine-tuning the process and operational parameters prior to pit conversion facility operation. While this demonstration could continue for up to 4 years, the information from the demonstration would be generated, gathered, and be available on a continuous basis throughout the facility design phase. This demonstration project and other R&D projects are described in the *Pit Disassembly and Conversion Demonstration EA* (DOE/EA-1207, August 1998), which is available on the MD Web site at <http://www.doe-md.com>.

MD064-7

Alternatives

DOE acknowledges the commentor's concern over potential shortcomings of the surplus plutonium disposition program. While it is true that the disposition of large quantities of plutonium is unprecedented, the various disposition alternatives are not. Several countries, including Russia and the United States, have experience with immobilizing high-level wastes and in use of the can-in-canister approach to that end. Using a ceramic rather than a glass matrix has been found to offer distinct advantages in the areas of proliferation resistance, repository durability, worker radiation exposure during processing, and cost-effectiveness.

Commercial reactors in the United States are capable of safely using MOX fuel. The MOX technology is used in Europe, and therefore does not require extensive research and development for implementation in the United States. The R&D effort would be concentrated on fabricating samples of MOX fuel and conducting limited experiments and tests on those samples to assess fuel performance. The main objectives of this effort by DOE are to ensure that the plutonium and uranium feed materials will produce acceptable MOX

fuel and to examine key issues relative to the performance of MOX fuel in commercial reactors.

MD064-8**Waste Management**

As described in Sections 2.18.3 and 4.28.2.8, additional spent fuel would be produced by using MOX fuel instead of LEU fuel in domestic, commercial reactors. Spent fuel management at the proposed reactor sites is not expected to change dramatically due to the substitution of MOX assemblies for some of the LEU assemblies. Likewise, the additional spent fuel would be a very small fraction of the total that would be managed at the potential geologic repository.

The remainder of this comment is addressed in response MD064-1.

I am concerned about the environment especially the water of the panhandle, since a lot of people drink it.

1

Pantex seems to have a good record for safe handling of dangerous materials. The economy of the panhandle is important also, therefore I am in favor of the expansion of Pantex to recycle Pu.

2

WD012

WD012-1

Water Resources

DOE acknowledges the commentor's environmental concerns. Section 4.26.3.2 describes the potential effects of the maximum impact alternative on water resources at Pantex. These analyses indicate that the impacts of construction and normal operation of the pit conversion and MOX facilities on the Ogallala aquifer at Pantex would likely be minor.

WD012-2

DOE Policy

DOE acknowledges the commentor's support of future missions at Pantex. However, none of the missions contemplated involved the recycling or reprocessing of plutonium. U.S. policy dating back to the Ford Administration has prohibited the commercial, chemical reprocessing and separation of plutonium from spent nuclear fuel. The use of U.S. surplus plutonium in existing domestic, commercial reactors does not involve reprocessing (reprocessing is a chemical separation of uranium, transuranic elements [including plutonium], and fission products from spent reactor fuel and the reuse of the plutonium and uranium to produce new fresh fuel). The proposed use of MOX fuel is consistent with the U.S. nonproliferation policy and would ensure that plutonium which was produced for nuclear weapons and subsequently declared excess to national security needs is never again used for nuclear weapons. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

I strongly recommend that the Pantex Site is selected as the best site for the for the Pit Disassembly/Disposition process, for these reasons:

1. The site has exclusive and considerable experience in weapons disassembly. This experience translates into an improved safety envelope.
2. This site has no known radiological contamination of facilities.
3. This site already has a secure area with well trained security force.
4. The required infrastructure only lacks procedural refinements to accomodate the new mission.
5. This site enjoys a very supportive climate with its major stakeholders, including the local population, local and state lawmakers and regional environmental regulators.

Thank you. Ray Sadesky

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WD002

WD002-1**Alternatives**

DOE acknowledges the commentor's support for siting the pit conversion facility at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

511 Avenue K
Hereford, TX 79045

August 14, 1998

ATTENTION: DRAFT SPD-EIS
U. S. Department of Energy
Office of Fissile Materials Disposition
P. O. Box 23786
WASHINGTON DC 20026-3786

Gentlemen;

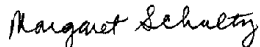
We Texans want to protect our water, air, and soil from radioactive pollutants. | 1

We do not want plutonium processing in the Texas Panhandle.

And we do not want military plutonium turned into MOX fuel. | 2

I would appreciate your considering these matters.

Sincerely yours,



Margaret Schultz

MD057

MD057-1

Alternatives

DOE acknowledges the commentor's opposition to plutonium processing in the Texas Panhandle. This SPD EIS analyzes the potential environmental impacts associated with implementing the proposed activities at the candidate sites. The results of these analyses, presented in Chapter 4 of Volume I and summarized in Section 2.18, demonstrate that the activities would likely have minor impacts on any of those sites, including Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

MD057-2

MOX Approach

DOE acknowledges the commentor's opposition to the MOX approach. Pursuing both the immobilization and MOX approaches provides important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

William Hughes Seewald

14 September 1998

U.S. Department of Energy
Office of Fissile Materials Disposition
P.O. Box 23786
Washington, D.C. 20026-3786

Subject: Surplus Plutonium Disposition Draft Environmental Impact Statement

Dear Madams and Sirs:

I enclose two letters herein that lay out some principles and objections to which I subscribe relative to the above referenced NEPA document.

I would also like to add two points that I wish to be considered in addition:

1. Pantex, as a site that has never processed plutonium before, should not be considered for the new plutonium processing missions if the Department is to honor a previous commitment not to introduce such risks to sites not already radiologically contaminated due to previous processing missions. The Department of Energy owes the people of the Texas Panhandle the respect of honoring that sensible commitment, notwithstanding efforts on the part of some local interests to confuse issues of economic development and good public policy.
2. It strains credibility that the scoping and analysis for the siting of these new processing facilities do not include as central criteria a site's previous experience in handling and processing plutonium as well as weighing the significance of any existing infrastructure that would not have to be replicated elsewhere. It seems absolutely self evident that to fail to do so leaves a NEPA document so flawed as to require significant overhaul.

1

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Thank you for the opportunity to comment on these proposals.

Sincerely,

William H. Seewald

enc.

806-353-8486 Phone 353-9109 Fax *** P.O. Box 10090 - Amarillo, Texas 79116

MD198

MD198-1

Alternatives

DOE acknowledges the commentator's concern that contamination may be introduced at sites that do not currently have plutonium-processing missions. This SPD EIS analyzes impacts of the environment from construction and normal operation of the pit conversion facility. This facility would be located in a new building at either Pantex or SRS and, regardless of the site location, would generate the same level of contamination and require the same amount of D&D. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

MD198-2

General SPD EIS and NEPA Process

As discussed in Sections 1.6 factors used in site selection for the preferred alternative included site infrastructure, mission, and staff expertise. Pantex was selected as a candidate site for the pit conversion facility in part from comments received during the scoping period for the SPD Draft EIS. DOE has prepared this SPD EIS in accordance with the provisions of NEPA (42 U.S.C. 4321 et seq.) and the related CEQ and DOE implementation regulations (40 CFR 1500 through 1508 and 10 CFR 1021, respectively).

Hello, my name is Mary Shennum. I'm from Amarillo, Texas and I have requested materials in the past. I just wish to comment that I would like to say that I would be against any processing of plutonium here in the Panhandle. This is an agricultural region and our agriculture, our agriculture success is based upon our reputation here, as well as the reality of the difficulty of handling plutonium. I lived in Denver when plutonium was being processed at Rocky Flats and the citizenry grew to understand that it was just so difficult to handle and store there. And I'm just against any processing here. I think it's too dangerous. I think, I'd wish that there could be a place where there were operations already in place to work on these things. It's just a dangerous substance and amount of substances and we would rather not have it here in Amarillo. Thank you so much for your consideration of these comments. Thank you.

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PD060

PD060-1

Alternatives

DOE acknowledges the commentor's opposition to siting the pit conversion and MOX facilities at Pantex. Incident-free (normal) releases of radioactivity from the proposed surplus plutonium disposition facilities to the food production chain are explained for each site in Appendix J. Current and future operations at any of the candidate sites should not impact the soil used for agriculture and farming in any of the regions adjacent to these sites. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

Hello, my name is Mary Shennum. I'm in Amarillo Texas and I have another comment here on the processing of plutonium here in the Panhandle. We have a small area compared to some of the other areas that are being considered for storage of plutonium and we really don't want this processing here. It's a sensitive region. The non-success of agriculture in this area would affect the whole country. And we feel that's important. Also, as far as the producing of the MOX fuel, I think some people have said, and I would tend to agree with it, that the process itself is not quite well researched. It's, we don't really know all the implications of what might happen in processing this fuel. Handling the plutonium powder here is not something we wish to do and we think it should be looked at more closely. There are hazards that have not been recognized. Immobilizing the material seems to be a better option. It would be less dangerous and have some pluses because it would also decrease the risk of having, ever having this substance being used for weapons by someone that we didn't want to use them. Thanks for the opportunity to comment. Thank you very much.

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PD066

PD066-1**MOX Approach**

DOE acknowledges the commentor's opposition to the MOX approach to surplus plutonium disposition at Pantex. MOX fuel fabrication is not a new technology; it has been used in Europe for many years. DOE has visited some of these European plants and will use any pertinent experience in the development of its own plant, if MOX is chosen as an option. Both the immobilization and MOX fuel approach meet the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

Hello, this is Carol Smith and I think it would be a good thing for Pantex to have the plutonium disposition. And so that's my comment. Thank you.

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PD023

PD023-1

Alternatives

DOE acknowledges the commentor's support for the surplus plutonium disposition program at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

My name is Chuck Smith. This concerns the additional work at the Pantex Plant in Amarillo, Texas. I'm for that work. I think Pantex can do that work well. Thank you very much. Bye.

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PD021

PD021-1

Alternatives

DOE acknowledges the commentor's support for the surplus plutonium disposition program at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

U.S. Department of Energy
Office of Fissile Materials Disposition
P.O. Box 23786
Washington, DC, 20026-3786

Dear Department of Energy, Office of Fissile Materials Disposition:

I do not support plutonium processing at the Pantex Plant. In the *Surplus Plutonium Disposition Draft Environmental Impact Statement*, the Department of Energy prudently decided against locating one plutonium processing facility (MOX fuel fabrication) at the Pantex Plant. For the following additional reasons, a Plutonium Pit Disassembly and Conversion facility also should not be located at Pantex:

Pantex Should Not Become the Next Rocky Flats

Pantex has never processed plutonium. The Pantex Superfund site has so far apparently escaped the type of radioactive contamination found at plutonium processing sites like Rocky Flats in Colorado and Hanford in Washington.

Risks That Are Unknown Are Too High

The Pantex Plant occupies an area that is a fraction of the size of other plutonium sites.

SIZE MATTERS: A Comparison of the Area of the Four Candidate Sites (Square Miles)			
Pantex	Savannah River Site	Idaho National Engineering Lab.	Hanford
23	309	890	560

The technologies proposed in the Plutonium Pit Disassembly and Conversion Facility are undemonstrated and unproven. It is unacceptable to have plutonium operations above the Ogallala Aquifer and only one mile from where people live and work in a vibrant agricultural producing area. The Pantex legacy already includes heavy contamination in a perched layer of groundwater less than one hundred feet above the Ogallala Aquifer. This pollution extends from under the Pantex Plant to adjacent private property and the real impacts remain unknown. The risk of any additional groundwater pollution is unacceptable in an agricultural region.

Common sense dictates that negative consequences to people and farmland from nuclear accidents are far more likely in a small, open, windy location like Pantex. The Department of Energy has acknowledged that the most visually unappealing feature of the plutonium facilities will be their smokestacks. Visual blight will be a minor inconvenience compared to the air pollutants--many of them radioactive--expected to escape into the atmosphere daily through smokestack filters. Routine air emissions of tritium, plutonium, americium, and beryllium constitute unacceptable new hazards to the Texas Panhandle.

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MD102

MD102-1

Alternatives

DOE acknowledges the commentor's opposition to siting the proposed surplus plutonium disposition facilities at Pantex. As described in Chapter 4 of Volume I and summarized in Section 2.18, potential impacts of any of the proposed activities during routine operations at any of the candidate sites would likely be minor. To avoid contamination that has occurred in the past at some DOE sites, DOE would design, build, and operate the proposed surplus plutonium disposition facilities in compliance with today's strict environmental, safety, and health requirements. Decisions on the surplus plutonium disposition program at Pantex will be based upon environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

MD102-2

Human Health Risk

Although Pantex is smaller in overall size in comparison with the other candidate sites, analyses in Chapter 4 of Volume I indicate that impacts of operating the pit conversion facility on health, safety, and the environment at Pantex would likely be minor (e.g., see Section 4.6).

While it is true that the pit conversion facility is the first consolidated facility for accomplishing this mission on a large scale, the processes that would be used in this facility are not entirely new. Many of these processes are in use at LANL and LLNL. In addition, DOE has recently started a pit disassembly and conversion demonstration project at LANL, where processes will be further developed and tested.

Section 4.26.3.2 analyzes impacts to the environment (including contamination to the Ogallala aquifer) due to construction and normal operation of a pit conversion facility at Pantex. There would be no discernible contamination of aquatic biota (fish) or drinking water, either from the deposition of minute quantities of airborne contaminants into small water bodies or from potential wastewater releases. Therefore, it is estimated that no measurable component of the public dose would be attributable to liquid pathways. Appendix J.3 includes an analysis of potential contamination of agricultural products and

livestock and consumption of these products by persons living within an 80-km (50-mi) radius of Pantex. If the proposed surplus plutonium disposition facilities were located at Pantex, a very small incremental annual dose to the surrounding public from normal operations would result via radiological emission deposition on agricultural products (i.e., food ingestion pathway). This dose (about 0.56 person-rem/yr) would be 0.0006 percent of the dose that would be incurred annually from natural background radiation. This analysis indicates that impacts of operating the pit conversion facility on agricultural products, livestock, and human health at Pantex would likely be minor.

MD102-3

Human Health Risk

It is DOE policy to operate in compliance with all applicable air quality requirements and to protect human health and the environment. DOE takes into consideration pollution reduction techniques to minimize air releases when designing, constructing, and operating its facilities. It also considers aesthetic and scenic resources in the design, location, construction, and operation of facilities. Potential concentrations of air pollutants at Pantex for the various alternatives have been estimated, considering appropriate local meteorology and other data associated with the area. Because the releases from the pit conversion and MOX facilities would be very small (see Appendix J.3.1.4), estimates of resultant radiological health risks are small. As indicated in Section 4.17.2.4, the maximum possible dose delivered to a member of the public during normal operations of the MOX and pit conversion facilities at Pantex would be 0.077 mrem/yr, 0.02 percent of the dose that individual would receive annually from natural background radiation. The estimated dose to the public from radiological emissions (e.g., americium, tritium, and plutonium) would be 0.58 person-rem/yr which would result in an increase of 2.9×10^{-3} LCFs over the 10-year operating life of the pit conversion facility. Any new facilities that might be built would be within existing site boundaries, and would be matched aesthetically with the current plant to limit potential visual impacts.

**There is Valid, Strong Criticism of Safety
in the Storage of Plutonium at Pantex**

Since Pantex became the nation's long-term storage location for up to 20,000 plutonium pits, promises to improve safety conditions have not happened. The U.S. Government Accounting Office and the Defense Nuclear Facilities Safety Board have issued reports critical of plutonium storage safety at Pantex. Fifty million taxpayer dollars were spent on a failed plutonium pit container program (the AT-400A) and the plan to move over 10,000 pits into a safer remodeled building (Building 12-66) has also failed.

When it comes to plutonium pit storage problems, Panhandle residents are back to square one. The plutonium remains in old, unsuitable, corroding storage containers and in 35-55 year old "bunkers" that the Department of Energy promised were for "temporary" use. Plutonium that is supposed to be stored in a stable environment now sits in the bunkers--all but three without air conditioning--even as the Texas Panhandle experiences a spell of more than 40 consecutive days of 90+ degree temperatures, and more than 20 days this summer with thermometers registering 100+ degrees. If the Department of Energy cannot accomplish the job of safely storing Pantex plutonium in the most stable environment, there is no reason to accept its unsubstantiated assurances to safely process deadly plutonium powders at Pantex.

Thank you for this opportunity to comment.

Sincerely:

*Please don't contaminate our Ogallala
Aquifer. Please don't contaminate our
air.*

*Let Savannah have the MOX.
They are prepared and they want it.*

Thank You

*Ernestine Smith, M.D.,
1216 S. Austin St.*

Amaillio 74 79102-1403

4

5

MD102

MD102-4

DOE Policy

DOE acknowledges the commentor's concern regarding storage of plutonium pits at Pantex. DOE is committed to the safe, secure storage of pits and is evaluating options for upgrades to Pantex Zone 4 facilities to address plutonium storage requirements. DOE has addressed some of the commentor's concerns in an environmental review concerning the repackaging of Pantex pits into a more robust container. This evaluation is documented in the *Supplement Analysis for: Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components—AL-R8 Sealed Insert Containers* (August 1998). This document is on the MD Web site at <http://www.doe-md.com>. Based on this supplement analysis, the decision was made to repackage pits at Pantex into the AL-R8 sealed insert container and to discontinue plans to repackage pits into the AT-400A container.

Worker exposure estimates attributable to the decision to repackage pits in AL-R8 sealed insert containers were incorporated in the revised Section 2.18 and Appendix L.5.1.

The issues raised in this comment relate to pit storage decisions made in the *Storage and Disposition PEIS* and the *Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Component* (DOE/EIS-0225, November 1996). DOE is considering leaving the repackaged surplus pits in Zone 4 at Pantex for long-term storage. An appropriate environmental review will be conducted when the specific proposal for this change has been developed; addressing, for example, whether additional magazines need to be air-conditioned. The analysis in this SPD EIS assumes that the surplus pits are stored in Zone 12 in accordance with the ROD for the *Storage and Disposition PEIS*.

MD102-5

DOE Policy

DOE acknowledges the commentor's support for siting the MOX facility at SRS. As indicated in Section 1.6, SRS is preferred for the MOX facility because this activity complements existing missions and takes advantage of existing infrastructure and staff expertise.

The remainder of this comment is addressed in responses MD102-1 and MD102-2.

Yes, my name is Jim D. Smith. I live in the Texas Panhandle. Been here all my life, 68 years. I would like to voice opposition to the Pantex operations at Amarillo, Texas. You want public input, so here is some input. I know the Chamber of Commerce in Amarillo and the AEDC and all these people are gung-ho for this plant, but I'm going to tell you, most of the people that live out in the areas, rural areas of the Panhandle are not for this plant, the continuation of this plant, and certainly not for an increase operations out there such as this pit disassembly or whatever you call it. We live in the, a area where there is 3 million head of cattle and the feed lots, this Pantex Plant is located at the end of the runway of the Amarillo International Airport. All the storage is above ground. This is, this is an accident just waiting to happen. I really feel that that plant should be closed and the mess should be cleaned up and the operation should be sent elsewhere. My address is Box, excuse me, my address is HC2, Box 250, Kress, Texas. Zip is 79052. My phone number is (806) 684-2631. Thank you for letting me express my opinion.

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PD022

PD022-1**Facility Accidents**

DOE acknowledges the commentor's opposition to siting the pit conversion facility at Pantex. Accident risk is an important consideration in the decision of whether, and if so, how and where, to conduct the surplus plutonium disposition program. There is accident risk associated with pit conversion operations at Pantex, just as there is accident risk associated with any operations at any site. The analysis in this SPD EIS endeavored to clarify those risks on both an absolute and relative basis so that the wisest course of action can be identified and taken. Chapter 4 of Volume I summarizes the impacts of accidents due to aircraft crashes at Pantex (e.g., see Table 4-60). The frequency of such an accident is judged to be beyond extremely unlikely meaning there is less than 1 chance in 1 million per year that the accident would occur. Detailed presentation of the analysis is provided in Appendix K.1.5.1. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.



United States
Department
of Energy

Comment Form

NAME: (Optional) Sam J. Sottile
ADDRESS: P. O. Box 276, Bushland, TX 79012-0276
TELEPHONE: (806) 356-6269
E-MAIL: sjsottile@tuno.com

I wanted to convey the support of my family and myself for DOE's selection of PANTEX to receive the Pit Disassembly and Conversion Facility (PD&CF) mission.
My family attended one of the public meetings here in Amarillo, Texas. We can not tell you how much we appreciated the opportunity to learn more about the overall concepts that are being perused by the DOE.

I personally have been working in the nuclear weapons field for nearly thirty years.
Twenty two and a half years in the United States Navy as a Weapons Technician and five years at PANTEX.

Enjoying what I do for a living is a very important part of my own personal mission statement. I really do enjoy disassembling, modifying, and assembling this vital portion of our nation's defense. I preform these tasks safely, and with the utmost attention to detail. Our nation, DOE, the American taxpayers, the people of the state of Texas, my fellow workers, and my own family are my customers. My customers deserve that I put 110% effort into my job. I have all the confidence in the world that the highly trained and experienced workforce of the Mason and Hanger Corp. can preform the PD&CF mission safely and with the utmost respect for our environment..... that's right, we live here in the community also!

I knew the positive reputation and acceptance of the PANTEX plant from the business, community, and our elected officials was great, but I was very gratified to hear speaker after speaker laud the "Good Neighbors" they have in the people of the PANTEX plant.

My hope and prayers are that DOE will select the PANTEX plant for the Pit Disassembly and Conversion Facility mission!

Thank you for this opportunity to make these comments.

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FD200

FD200-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

STAND OF AMARILLO, INC.
DON MONIAK
PAGE 1 OF 15

STAND of Amarillo, Inc.

August 12, 1998
STAND COMMENT # 1

Office of Fissile Materials Management
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, D.C. 20585

Dear Department of Energy, Office of Fissile Materials Management:

Attached are a series of comments submitted by STAND of Amarillo, Inc. pertaining to the *Surplus Plutonium Disposition Draft Environmental Impact Statement* (SPDEIS). These documents were referenced at the Amarillo, TX public hearing on August 11, 1998:

1. Comments on NEPA
2. Comments on locating plutonium processing at Pantex
3. Comments on immobilization and MOX
4. STAND of Amarillo Fact Sheet 98-04 with April 9, 1998 news release
5. News releases from August 6, 1998 and August 10, 1998
6. News article from August 11, 1998
7. Portions of the shredded Draft SPDEIS

These comments will be supplemented in the future.

Sincerely:



Don Moniak
Program Director
STAND of Amarillo, Inc.

cc: U.S. Secretary of Energy William Richardson
cc: State of Texas Governor George W. Bush, Jr.
cc: Congressman Mac Thornberry
cc: State of Texas Attorney General Daniel Morales
cc: Ms. Carol Borgstrom, Office of NEPA Policy and Assistance

The National Environmental Policy Act

The National Environmental Policy Act (NEPA) is our basic national charter for the protection of the environment. NEPA requires all Federal agencies to "utilize a systematic, interdisciplinary approach" in planning and decision making of any actions that may have an impact on the environment; insure that high quality "environmental information is available to public officials and citizens before decisions are made and before actions are taken"; and insure substantial and meaningful public involvement in the planning and decision process.

The Department of Energy's *Surplus Plutonium Disposition Draft Environmental Impact Statement* (Draft SPDEIS) is in clear violation of the letter and spirit of the National Environmental Policy Act. Following is a list of just a few of the clear violations of this important environmental law.

NEPA requires agencies to identify and analyze significant effects

DOE failed to identify and address beryllium air emissions in the Draft SPDEIS. The *Design-Only Conceptual Design Report for the Pit Disassembly and Conversion Facility* (Los Alamos National Laboratory, 1997) described the PDCF as a beryllium operation and addressed the possible need for an air permit. In its 1994 *Environmental Checklist for ARIES*, Los Alamos National Laboratory cited "expected emissions" of beryllium for a very small test project.

DOE failed to identify radioactive air emissions in the Draft SPDEIS. On page J-4 of the Draft SPDEIS DOE wrote that, "source term data for radiological releases, stack heights, and release locations are provided in the data reports for the pit conversion, immobilization, and MOX facilities." The data reports are not provided to the public, but are placed in reading rooms. In other words, the Draft SPDEIS does not provide any data on something as basic as expected quantities of radioactive air pollutants.

DOE did not analyze the impact of creating a new plutonium processing site (Pantex). DOE has identified this impact as significant in other NEPA documents. In its *Programmatic Environmental Impact Statement for Stockpile Stewardship and Management*, (1996), DOE wrote, "*Plutonium would not be introduced into a site that does not have a plutonium infrastructure because of the high cost of new plutonium facilities and the complexity of introducing plutonium operations into sites without current capabilities.*"

NEPA requires agencies to evaluate all reasonable alternatives

DOE did not identify or evaluate the "metals-only option" for plutonium pit disassembly and conversion. The "metals only option was reported in the *Technical Risk Assessment for the Department of Energy Pit Disassembly and Conversion Facility Final Report* (Los Alamos National Laboratory, 1997) as the option with the least technical risk.

Compiled by STAND of Amarillo

FD175

FD175-1

General SPD EIS and NEPA Process

DOE has prepared this SPD EIS in accordance with the provisions of NEPA (42 U.S.C. 4321 et seq.) and the related CEQ and DOE implementation regulations (40 CFR 1500 through 1508 and 10 CFR 1021, respectively).

FD175-2

Air Quality and Noise

The 1994 analysis performed by LANL referred to the possibility of airborne releases of beryllium, a hazardous air pollutant, from pit disassembly and conversion. Subsequent analysis from LANL indicates that there would not be any airborne releases of beryllium (*Pit Disassembly and Conversion Facility, Environmental Impact Statement Data Report—Pantex Plant*, LA-UR-97-2909, June 1998). Because the beryllium is expected to remain in metal form at all times, the health hazards are minimized. The beryllium would be present in large pieces and cuttings created when the pit was bisected. These cuttings would be too large to become airborne. There would be no grinding; thus, there would not be any pieces of beryllium small enough to become airborne. Because the pieces and cuttings would be contaminated with trace levels of radioactive materials, they would primarily be disposed of as TRU waste and is included in the waste projections in this SPD EIS.

Section 2.4.1.1 was revised to discuss beryllium and its presence in the pit conversion facility.

FD175-3

Air Quality and Noise

Appendix G was revised to include the stack parameters for each of the proposed surplus plutonium disposition facilities, and Appendix J was revised to include their expected radiological release quantities.

FD175-4

DOE Policy

The *Final Programmatic Environmental Impact Statement for Stockpile Stewardship and Management* (SSM PEIS) (DOE/EIS-0236, September 1996) states that the pit fabrication mission would not be introduced into a site that does not have an existing plutonium infrastructure because of the high cost of new plutonium facilities and the complexity of introducing plutonium

operations into sites without current plutonium capabilities. The SSM PEIS states further that an important element of the site selection strategy is to maximize the use of existing infrastructure and facilities as the nuclear weapons complex becomes smaller and more efficient in the 21st century; thus, no new facilities were to be built to accommodate stockpile management missions. Accordingly, DOE considered as reasonable only those sites with existing infrastructure capable of supporting a pit fabrication mission. Although Pantex has the infrastructure to carry out its current weapons assembly and disassembly mission and nonintrusive pit reuse program, it was not considered a viable alternative for the pit fabrication mission because it did not possess sufficient capability and infrastructure to meet the SSM PEIS siting assumption stated above. Among the operations that were considered in developing siting alternatives for pit fabrication in the SSM PEIS were plutonium foundry and mechanical processes, including casting, shaping, machining, and bonding; a plutonium-processing capability for extracting and purifying plutonium to a reusable form either from pits or residues; and assembly operations involving seal welding and postassembly processing.

When comparing the site selection strategy for pit disassembly and conversion with that used for the pit fabrication mission, the siting criteria in the SSM PEIS have little or no bearing on siting criteria used in this SPD EIS. Pit disassembly and conversion do not require the foundry and mechanical processes discussed in the SSM PEIS and can be accomplished in a stand-alone facility. Also, the SSM PEIS siting assumptions include a requirement to use existing facilities, whereas the pit conversion facility would be a new structure no matter where it is located.

The analyses conducted for this SPD EIS indicate that potential environmental and human health impacts at Pantex would not be major. Results of the analysis are presented by alternative in Chapter 4 of Volume I. Detailed information on the potential impacts on human health at Pantex is presented in Appendix J.3. As shown in these sections, normal operation of the proposed facilities at Pantex would be well within limits prescribed by Federal, State, and local laws and regulations.

FD175-5

Pit Disassembly and Conversion

NEPA requires agencies to evaluate a range of reasonable alternatives. In the ROD for the *Storage and Disposition PEIS*, DOE identified two approaches for plutonium disposition: immobilization and conversion into MOX fuel for use in existing domestic, commercial reactors. Both approaches call for the use of plutonium dioxide as feed material. To become suitable feed material, the plutonium pits would have to be converted to oxide. Therefore, the metals-only option is beyond the scope of this SPD EIS; it was eliminated from consideration in the ROD for the *Storage and Disposition PEIS*.

DOE did not evaluate "plutonium polishing"—liquid acid plutonium polishing— as a reasonable alternative for producing plutonium oxide powder suitable for Mixed Oxide (MOX) fuel use. DOE clearly considers liquid acid plutonium processing to be a reasonable alternative. In early June, DOE amended its *Request for Proposals for MOX Fuel Fabrication and Irradiation Services* to read: "*The Offeror shall indicate whether or not its technical approach incorporates a plutonium oxide polishing step.*"

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NEPA requires early implementation and public involvement

NEPA requires agencies to reduce delays and "integrate the NEPA process into early planning," and DOE's policy is to "apply the NEPA review process early in the planning stages for DOE proposals." (10CFR1021.210.a)

DOE has excluded nuclear reactor communities from the public involvement process. DOE intends to burn Mixed Oxide (MOX) fuel in nuclear reactors but is allowing the nuclear industry to provide the site specific analysis for this proposed federal action. In the Draft SPDEIS, DOE has stated that, "*environmental impact analysis relating to specific reactors will be included in the SPD Final EIS,*" although these analyses are scheduled to be made by Consortiums in their proposals to fabricate and irradiate Mixed Oxide (MOX) fuel. No hearings have been held or are being planned in communities where utilities have expressed an interest in burning MOX fuel.

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NEPA requires agencies meaningful and substantial public involvement

DOE did not adequately consider public input to the scope of the SPDEIS. During the 1997 Scoping for the Surplus Plutonium Disposition Environmental Impact Statement, hundreds of individuals and groups submitted comments to DOE to:

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- Involve nuclear reactor communities in the NEPA process and do site-specific analysis of nuclear reactor sites;
- Provide environmental, safety and health information from the European mixed oxide (MOX) fuel industry;
- Fully analyze the differences between plutonium pit conversion for use in immobilization versus use in mixed oxide (MOX) fuel;
- Analyze "aqueous" plutonium processing as a reasonable alternative for plutonium pit conversion.
- Provide environmental impact data in the actual environmental impact statement, not in reference documents.

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These scoping considerations were not undertaken by the Department of Energy.

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The intent of NEPA is not bigger documents, it is better documents.

The Draft SPDEIS is 1300 pages long, yet it does not contain basic information, it does contain redundant and unnecessary paperwork, and it does not provide high quality information that is easily read by the general public.

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FD175-6

Plutonium Polishing and Aqueous Processing

At the time DOE issued the SPD Draft EIS, it believed the gallium content in the plutonium dioxide feed specifications for MOX fuel could be reached using the dry, thermal gallium removal method included in the pit conversion process. However, in response to public interest on this topic and to ensure adequate NEPA review in the event that the gallium specification could not be met with the thermal process, an evaluation of the potential environmental impacts of including a small-scale aqueous process (referred to as plutonium polishing) as part of either the pit conversion or MOX facility was presented in Appendix N of the SPD Draft EIS. On the basis of public comments received on the SPD Draft EIS, and the analysis performed as part of the MOX procurement, DOE has included plutonium polishing as a component of the MOX facility to ensure adequate impurity removal from the plutonium dioxide. Appendix N was deleted from the SPD Final EIS, and the impacts discussed therein were added to the impacts sections presented for the MOX facility in Chapter 4 of Volume I. Section 2.18.3 was also revised to include the impacts associated with plutonium polishing.

FD175-7

General SPD EIS and NEPA Process

The SPD Final EIS was not issued until the proposed reactors had been identified and the public had an opportunity to comment on the reactor-specific information. As part of the procurement process, bidders were asked to provide environmental information to support their proposals. This information was analyzed in an Environmental Critique prepared for the DOE source selection board prior to award of the MOX fuel fabrication and irradiation services contract. DOE then prepared an Environmental Synopsis on the basis of the Environmental Critique, which was released to the public as Appendix P of the *Supplement to the SPD Draft EIS* in April 1999. This *Supplement* included a description of the affected environment around the three proposed reactor sites, and analyses of the potential environmental impacts of operating these reactors using MOX fuel (Sections 3.7 and 4.28 of this SPD EIS, respectively). During the 45-day period for public comment on the *Supplement*, DOE held a public hearing in Washington, D.C., on June 15, 1999, and invited comments. Responses to those comments are provided in Volume III, Chapter 4.

FD175-8

General SPD EIS and NEPA Process

DOE acknowledges the commentor's concerns regarding public involvement. As discussed in the response to FD175-7, nuclear reactor communities had the opportunity to comment. In the Environmental Critique and Environmental Synopsis, DOE used information that DCS provided on its European MOX fuel experience in evaluating changes required to the proposed MOX facility. The results of the critique were made available to the public in the Environmental Synopsis in accordance with 10 CFR 1021.216.

FD175-9

General SPD EIS and NEPA Process

DOE has worked carefully to keep the size of this SPD EIS to a minimum, and yet to make it sufficiently comprehensive to ensure that the decisionmaker and the public are well informed on the potential environmental impacts of siting the proposed surplus plutonium disposition facilities. However, the number and complexity of reasonable alternatives required to meet DOE's needs compel a very large document. DOE has also worked carefully to eliminate duplicate information. Nevertheless, a certain amount of repetition has been necessary to assist the reader—that is, to prevent the reader from having to move between various sections to exhaust the information on a particular topic. DOE has prepared a short summary of the SPD EIS and a guide on how to quickly locate specific information therein.

STAND OF AMARILLO, INC.
DON MONIAK
PAGE 7 OF 15

U.S. Department of Energy
 Office of Fissile Materials Disposition
 P.O. Box 23786
 Washington, DC, 20026-3786

Dear Department of Energy, Office of Fissile Materials Disposition:

I do not support plutonium processing at the Pantex Plant. In the *Surplus Plutonium Disposition Draft Environmental Impact Statement*, the Department of Energy prudently decided against locating one plutonium processing facility (MOX fuel fabrication) at the Pantex Plant. For the following additional reasons, a Plutonium Pit Disassembly and Conversion facility also should not be located at Pantex:

Pantex Should Not Become the Next Rocky Flats

Pantex has never processed plutonium. The Pantex Superfund site has so far apparently escaped the type of radioactive contamination found at plutonium processing sites like Rocky Flats in Colorado and Hanford in Washington.

Risks That Are Unknown Are Too High

The Pantex Plant occupies an area that is a fraction of the size of other plutonium sites.

SIZE MATTERS: A Comparison of the Area of the Four Candidate Sites (Square Miles)			
Pantex	Savannah River Site	Idaho National Engineering Lab.	Hanford
23	309	890	560

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The technologies proposed in the Plutonium Pit Disassembly and Conversion Facility are undemonstrated and unproven. It is unacceptable to have plutonium operations above the Ogallala Aquifer and only one mile from where people live and work in a vibrant agricultural producing area. The Pantex legacy already includes heavy contamination in a perched layer of groundwater less than one hundred feet above the Ogallala Aquifer. This pollution extends from under the Pantex Plant to adjacent private property and the real impacts remain unknown. The risk of any additional groundwater pollution is unacceptable in an agricultural region.

Common sense dictates that negative consequences to people and farmland from nuclear accidents are far more likely in a small, open, windy location like Pantex. The Department of Energy has acknowledged that the most visually unappealing feature of the plutonium facilities will be their smokestacks. Visual blight will be a minor inconvenience compared to the air pollutants—many of them radioactive—expected to escape into the atmosphere daily through smokestack filters. Routine air emissions of tritium, plutonium, americium, and beryllium constitute unacceptable new hazards to the Texas Panhandle.

FD175

FD175-10

Alternatives

This comment is addressed in responses to the campaign, *Letter Expressing Reasons for Not Supporting Plutonium Processing at the Pantex Plant*.

**There is Valid, Strong Criticism of Safety
in the Storage of Plutonium at Pantex**

Since Pantex became the nation's long-term storage location for up to 20,000 plutonium pits, promises to improve safety conditions have not happened. The U.S. Government Accounting Office and the Defense Nuclear Facilities Safety Board have issued reports critical of plutonium storage safety at Pantex. Fifty million taxpayer dollars were spent on a failed plutonium pit container program (the AT-400A) and the plan to move over 10,000 pits into a safer remodeled building (Building 12-66) has also failed.

When it comes to plutonium pit storage problems, Panhandle residents are back to square one. The plutonium remains in old, unsuitable, corroding storage containers and in 35-55 year old "bunkers" that the Department of Energy promised were for "temporary" use. Plutonium that is supposed to be stored in a stable environment now sits in the bunkers--all but three without air conditioning--even as the Texas Panhandle experiences a spell of more than 40 consecutive days of 90+ degree temperatures, and more than 20 days this summer with thermometers registering 100+ degrees. If the Department of Energy cannot accomplish the job of safely storing Pantex plutonium in the most stable environment, there is no reason to accept its unsubstantiated assurances to safely process deadly plutonium powders at Pantex.

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Thank you for this opportunity to comment.

Sincerely:

FD175

STAND OF AMARILLO, INC.
DON MONIAK
PAGE 9 OF 15

U.S. Department of Energy
 Office of Fissile Materials Disposition
 P.O. Box 23786
 Washington, DC, 20026-3786

Dear Department of Energy, Office of Fissile Materials Disposition:

In the *Surplus Plutonium Disposition Draft Environmental Impact Statement*, the Department of Energy proposes to build new plutonium processing facilities and dispose of 55 tons of "surplus" plutonium. I ask that the following comments reflecting my concerns and reservations regarding these proposals be incorporated into the decisions made for the plutonium disposition program.

Immobilize

The objective of plutonium disposition is to make weapons-usable plutonium as inaccessible for reuse in nuclear weapons as the plutonium in irradiated nuclear fuel, and to do so in a timely and safe manner. For the following reasons the Department of Energy should choose to immobilize all surplus plutonium and consider the possibility of doing this at more than one location:

- Immobilizing all plutonium is a safer option because it involves less handling, processing, and transporting of plutonium and other radioactive materials, and is less expensive because it involves fewer new facilities and avoids the costs of subsidizing the nuclear industry. These same factors would allow disposition to occur in a much more timely manner;
- According to the Department of Energy's own studies, the "ceramification can-in-canister" approach to immobilization results in a waste product that is more resistant to theft, diversion, and reuse than irradiated mixed oxide (MOX) fuel;
- The immobilization approach does not involve increasing the risk to persons living near nuclear reactors because it avoids burning—for the first time ever—large amounts of weapons-grade plutonium.

If delays arise in the immobilization program, the Department of Energy should insure that:

- Forms of presently unstable plutonium oxide scheduled for immobilization are put in a safer, more stable form suitable for storage, inventory, and international inspection;
- The objective of interim demilitarization of currently stable forms of plutonium, such as plutonium in pits, must be the minimal alteration of its current form necessary for safe storage, inventory, and international inspection.

No To MOX

The ill-conceived mixed oxide (MOX) fuel option should be rejected because there is no rational justification to convert stable plutonium to less stable, more dangerous plutonium oxide powder for use in MOX fuel, and then subsidize the nuclear industry to irradiate the fuel in aging nuclear reactors. Now that it appears obvious that producing plutonium oxide powder suitable for use in MOX fuel will require liquid acid plutonium processing, the MOX option is a proven threat to human health and the environment.

The United States' rationale that it must choose the MOX option to appease Russia is unsubstantiated and flawed in several respects:

- There is little support for a plutonium fuel economy in Russia, where people voting in public referendums have overwhelmingly rejected new nuclear developments;

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FD175

FD175-11

Alternatives

This comment is addressed in responses to the campaign, *Letter Expressing Support for Immobilizing All Surplus Plutonium and Rejection of the Mixed Oxide Fuel Option*.

- The argument that the Russian government opposes immobilization because the plutonium is more easily retrieved is undermined by the fact that irradiated MOX fuel is easier to re-use in nuclear weapons than the ceramification can-in-canister disposition approach;
- The United States should not be encouraging Russia to develop MOX capability due to the uncertainties produced by the U.S. underwriting costs of a Russian infrastructure to reprocess plutonium;
- Russia's choice of technology should not determine the U.S. choice. The governments themselves have recognized this, as in the United States-Russian Joint Plutonium Disposition study in 1996, which found that, *"The United States and Russia need not use the same plutonium disposition technology. Indeed, given the very different economic circumstances, nuclear infrastructures, and fuel cycle policies in the two countries, it is likely that the best approaches will be different in the two countries."*

Already, politically powerful voices are suggesting that United States policy regarding plutonium be re-examined. By establishing a new level of plutonium processing infrastructure which encourages plutonium commerce, U.S. non-proliferation policy is clearly undermined.

Inform People of the Real Hazards, Risks, and Uncertainties

The Department of Energy has not fulfilled its legal obligation to fully inform people of the real risks, hazards, uncertainties and long-term implications of processing tons of plutonium powder that is hazardous to human health at the scale of micrograms. This latest voluminous, and largely unreadable, environmental document does not even contain the most basic information about hazards, such as the expected quantities of radioactive air pollutants. Instead, the public is forced to follow a paper maze if the information is available at all.

The Department of Energy must admit that the real hazards and risks are largely unknown, and that uncertainty is the only constant at this time. There is only one mixed oxide (MOX) fuel plant currently operating at the capacity proposed by this document—100 tons of MOX fuel fabricated per year—and that facility uses reactor-grade plutonium. No MOX fuel from weapons-grade plutonium has ever been fabricated or used on an industrial scale, and no weapons-grade plutonium has ever been immobilized on an industrial scale. The plutonium pit disassembly and conversion plant would be a first-of-its-kind facility utilizing unproven technologies that are controversial even within the nuclear establishment.

To compound the uncertainties, the Department of Energy plutonium disposition plan is not a model for success. Under the existing proposals, the Department of Energy would design facilities requiring unproven technologies while the technology demonstration and testing is ongoing, and begin facility construction before finishing their design. The Department of Energy has followed this model of development before and the result has always been cost overruns, delays, unexpected negative impacts on human health and the environment, and massive waste of taxpayer dollars.

Thank you for this opportunity to comment.

Sincerely:

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FD175

STAND of Amarillo, Inc.

FOR IMMEDIATE RELEASE: APRIL 9, 1998
NEWS RELEASE***NEWS RELEASE**

NRC SCRUTINIZES MOX PROGRAM

"SHIFTING SOIL" AND CONFUSION CHARACTERIZE DOE EFFORTS

The Nuclear Regulatory Commission (NRC) issued several stern warnings to the Department of Energy (DOE) during an April 3, 1998 public meeting in which DOE briefed the commission on its Mixed Oxide (MOX) fuel program. NRC Chairperson Shirley Jackson admonished DOE, "Stability at the highest policy levels within DOE...is something that we absolutely must have." Jackson's remarks finalized the briefing that yielded repeated indications that DOE's MOX program appears to lack integrated and coherent leadership or strategy.

Director of DOE's Office of Fissile Materials Disposition, Howard Canter, indicated the regulatory framework is poorly defined. Jackson replied at one point that "the soil seems to be shifting...and so the real question that naturally occurs is how firm is DOE with the strategies and plans that you have presented today?"

Pantex is one of four candidate sites for plutonium processing operations, and its supporters have used NRC regulation as a selling point in trying to minimize the dangers associated with these new missions at the plant. Serious concerns for the Panhandle arise since this regulation doesn't currently exist and proposals are neither clear nor defined at this point.

The fact is that DOE remains self-regulated in their handling of plutonium. "Our experience is that DOE does whatever it wants to do, and public input is just a charade. I'm not sure they will ever be willing to heed any advice from the Nuclear Regulatory Commission either," according to Trish Neusch, Operations Director for STAND of Amarillo, whose family lives and farms less than 2 miles from the proposed plutonium processing facility.

Don Moniak, Program Director for STAND of Amarillo, adds, "While it is encouraging to see the NRC put the plutonium disposition program under such heavy scrutiny, we hope Congress and the Texas delegation begin to take notice and slash MOX funding accordingly. DOE needs better leadership and a sense of direction before they waste any more taxpayer dollars."

The April 3, 1998 NRC meeting transcript is available in its entirety on the World Wide Web at:

<http://www.nrc.gov/NRC/COMMISSION/TRANSCRIPTS/19980403a.html>

For More Information Contact:

Don Moniak, STAND of Amarillo, Inc. 806-358-2622

FD175-12

General SPD EIS and NEPA Process

DOE acknowledges the attached news releases, fact sheet, and newspaper article.

**POSITIONS AND STATEMENTS
PLUTONIUM PROCESSING AND MIXED OXIDE (MOX) FUEL**

"We oppose the processing, reprocessing and the production of mixed oxide fuel (MOX) in areas where there is possibility or risk of pollution and contamination of agricultural land, air, and groundwater."

State Policies of the Texas Farm Bureau, 1998, Pages 36-37, Section 137, Lines 24-28

American Farm Bureau Federation Policies for 1998, Page 112, Section 121, Lines 38-41

"The Party recognizes the value of alternative energy and supports continued private research and development of such sources, but we oppose the federal government using hazardous waste as an alternative energy source, such as the processing and/or reprocessing of plutonium and uranium for making Mixed Oxide fuel in agricultural areas and above major water sources."

Texas Republican State Party 1998 Platform for "Alternative Energy Sources"

"Since the manufacture of nuclear reactor fuel rods has usually led to environmental contamination of land, air, and water, and since the Pantex Plant near Amarillo, Texas is located over the Ogallala Aquifer, the country's largest aquifer, and in the midst of one of the country's largest grain-and-cattle-producing regions, the Democratic Party of Texas opposes the U.S. Department of Energy plan to produce Mixed Oxide (MOX) fuel from plutonium and uranium at the Pantex Plant, or any other form of plutonium processing."

Texas Democratic State Party 1998 Platform

"A consortium has been formed between Bechtel, BNFL International, and Westinghouse. GE chose not to participate. GE will not receive, store, process, transport, or take title to any material in any stage of the MOX process. I think you have other people to deal with on this one and not GE. Thank you very much."

Statement by General Electric Corporation Chairman of the Board Robert Welch at annual General Electric shareholders meeting, April 1998

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STAND of Amarillo, Inc.

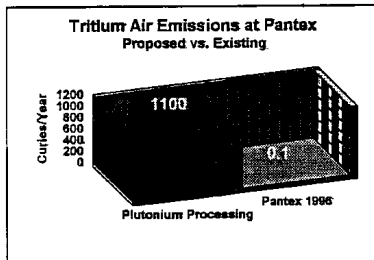
FOR IMMEDIATE RELEASE: August 5, 1998

NEWS RELEASE***NEWS RELEASE**

TRITIUM EMISSIONS WOULD JUMP 10,000 TIMES WITH PLUTONIUM PROCESSING AT PANTEX

According to a Department of Energy document, high levels of routine air emissions of gaseous, radioactive tritium would characterize operations at a Plutonium Pit Disassembly and Conversion Facility (PDCF) Los Alamos National Laboratory scientists estimated that 1,100 curies a year of gaseous tritium would be released through a smokestack about 115 feet high. The source of the tritium would be the "disassembly and conversion of pits containing tritium"¹ in the "Special Recovery Line," an additional process that was not previously reported.

Pantex and the Savannah River Site plant in South Carolina are "equally preferred" candidate sites for locating the Plutonium pit processing facility—a first-of-its-kind plutonium processing plant that would utilize unproven technologies. If located at Pantex, the PDCF would emit 10,000 times more hazardous, radioactive tritium gas than are presently released under routine existing Pantex operations (0.1 curies/year in 1995 and 1996).



**For More Information Contact
 Don Moniak, 806-358-2622**

Panhandle Area Neighbors And Landowners (PANAL) member Jeri Osborne stated, "that is a lot of radioactive air pollution considering the winds we have around here. There are several of us living and farming along this north-northwest Pantex boundary, including a bunch of children. We've said all along that plutonium processing is a threat to human health and area agriculture, and this just confirms our position yet again."

"The Department of Energy brags about the number of jobs a plutonium plant might create but chooses to hide the severe health hazards plutonium operations would create," added Don Moniak from Serious Texans Against Nuclear Dumping.

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¹ Pit Disassembly and Conversion Facility, Environmental Impact Statement Data Report-Pantex Site, LA-UR-97-2909. Page 68.



SAVE TEXAS AGRICULTURE AND RESOURCES
7105 W. 34th Street
Amarillo, Texas 79109
(806) 358-2622

FOR IMMEDIATE RELEASE: August 10, 1998
ATTENTION: ASSIGNMENT EDITORS
MEDIA ADVISORY ***MEDIA ADVISORY**
Media Conference
Courtyard Area of the Radisson Inn, I-40 and Lakeside
Amarillo, Texas
2 P.M., Monday, August 10

**LOCAL GROUPS TO SHRED
DEPARTMENT OF ENERGY'S
ENVIRONMENTAL IMPACT STATEMENT**

Local Panhandle area citizens and grassroots organizations will meet with the media to discuss their grave concerns with the Department of Energy's proposals to begin processing plutonium at the Pantex Plant. A public hearing being held in Amarillo on Tuesday, August 11th is an important opportunity for Texas Panhandle residents to remind the government that the lure of a few hundred jobs is not worth becoming the next Rocky Flats. A copy of the *Surplus Plutonium Disposition Draft Environmental Impact Statement* will be sent through a shredder to send the Department of Energy the message that the document is in clear violation of the National Environmental Policy Act. Some of the clear violations include:

- Failure to evaluate all reasonable plutonium processing alternatives;
- Omission of environmental impacts such as radioactive air emissions;
- Exclusion of nuclear reactor communities from the public involvement process;
- A claim that repackaging plutonium pits at Pantex into shipping containers would add \$70,000,000 in operating costs to a plutonium pit disassembly and conversion facility at a site other than Pantex.

"We are greatly disturbed that the government chose not to tell people how much radioactive debris will be deposited on our agricultural land and its products," said Doris Smith of Panhandle Area Neighbors and Landowners (PANAL).

"Pantex is a site with no plutonium processing experience and compared to other DOE sites it is clean of radioactive contamination. Yet these considerations remain absent in the analysis," said Mavis Belisle of the Peace Farm.

"The Department of Energy already said it would repackage plutonium pits in new storage and shipping containers as part of its storage program. The failure to implement a promised safety improvement program should not function as a criteria for locating a more dangerous operation at Pantex," said Don Moniak from Serious Texans Against Nuclear Dumping (STAND).

CONTACTS: Don Moniak 806-358-2622 Mavis Belisle 806-335-1715 Doris Smith 806-335-1050

STAND of Amarillo • PANAL • the Peace Farm • POWER of Hereford • Texas Nuclear Waste Task Force

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FD175

Amarillo Daily News Tuesday, August 11, 1998 9A

STAND: Report omits data

By GREG ROHLOFF
 Globe-News Business Writer

Opponents of a possible plutonium pit disassembly plant at Pantex said Monday that the Department of Energy failed to include all the pertinent information in its draft environmental impact statement.

The DOE will conduct hearings from 1 to 4 p.m. and 6 to 9 p.m. today at the Radisson Inn, Interstate 40 and Lakeside, on the possible location of a pit disassembly plant. Additionally, the DOE will collect written comments on the proposal through Sept. 16.

U.S. Rep. Mac Thornberry, R-Clarendon, will testify on why he believes Pantex is the best choice for the plant. Thornberry is a member of the House National Security Committee, which oversees Pantex and the nation's nuclear weapons complex.

Pantex is one of two preferred sites, according to DOE documents. The other is the Savannah River Site in western South Carolina.

Don Moniak, executive director of Serious Texans Against Nuclear Dumping, said the DOE's environmental impact statement downplays the potential radiation exposure.

Radiation exposure is measured in standard units called rems; DOE reg-

ulations allow up to 5 rems yearly, according to Andre Cygelman, director of material and immobilization of the office of fissile materials disposition for DOE.

The document states an average yearly exposure of about 500 millirems; a millirem is one-thousandth of a rem.

Moniak said Pantex's current level of allowable radiation exposure is 800 millirems.

A report analyzing the staffing needs of a pit disassembly plant prepared by Los Alamos National Laboratory estimates that some workers on the operating floor could be exposed to as much as 1 rem. The average for all floor workers is 810 millirems.

Moniak said the DOE environmental impact statement writers apparently arrived at the 500 millirems figure by including managers and clerical workers who would not be in contact with the pits.

Cygelman and Bert Stevenson, director of outreach for the office of fissile materials disposition, said they had no knowledge of the source of the higher figures quoted by Moniak.

Cygelman said the 500 millirems was a goal for a disassembly plant.

Dois Smith of the Panhandle Area Neighbors and Landowners, another group opposed to expanding Pantex's

mission, said the draft document understates the potential exposure to tritium, a toxic liquid that has reached a perched aquifer above the Ogallala aquifer, a principle source of water for the region.

She cited a June 1 report on the Pit Disassembly and Conversion Facility that 1,100 curies of tritium would be released into the atmosphere.

Cygelman insisted that the figures in the draft environmental impact statement were accurate, and that workers would face little exposure to tritium while handling the plutonium pits in glove boxes.

Mavis Belisle of the Peace Farm questioned the accuracy of figures listed for beryllium, noting that the Oak Ridge, Tenn., plant has had environmental problems because of beryllium.

Cygelman and Stevenson said they were uncertain of the analysis of beryllium exposure.

Moniak, Smith and Belisle shredded a copy of the statement, reducing it to a pile of paper strips.

"We do not believe it is legally valid or scientifically valid at this time," Moniak said.

Moniak called for a new statement that would be shorter and more concise than the current document's 1,300 pages.

12

FD175

STAND of Amarillo, Inc.

August 24, 1998
STAND COMMENT # 2
Surplus Plutonium Disposition Draft Environmental Impact Statement
(Draft SPDEIS)

Office of Fissile Materials Management
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, D.C. 20585

Dear Department of Energy, Office of Fissile Materials Management:

RE: *ARIES Source Term Fact Sheet* (LALP-97-24, Rev. 3, April 24, 1998).

On page 3, paragraph two, the report states that, "A significant number of pits processed by the ARIES facility will contain tritium. None of these pits were selected as part of the ARIES pilot demonstration because of the difficulties associated with handling tritium."

- Does the Department of Energy know how many pits contain tritium?
- Exactly what exact difficulties are associated with handling tritium, why are these difficulties not reported in the Draft SPDEIS, and will DOE detail these difficulties in the Final SPDEIS?
- What would be the consequences if pits containing tritium were sent through the proposed plutonium pyroprocessing modules?
- Is DOE considering processing pits with tritium at an even or uneven rate?

On page 3, paragraph two, the report also states that, "Decisions regarding the presence of tritium will be made before processing pits in the ARIES facility. These decisions may be based upon prior knowledge or upon a sampling strategy for detecting tritium. A strategy for detecting tritium in pits was devised while planning for the reconfiguration of the nuclear stockpile complex."

- When will DOE make these decisions regarding the presence of tritium?
- Where in the Draft SPDEIS is there an analysis and/or reporting of the requirements for detecting tritium?
- Was the tritium detection strategy ever reported in a public document? Was this strategy ever implemented?
- What is the risk of not detecting tritium in a pit that does contain tritium?

FD145-1

Pit Disassembly and Conversion

Section 2.4.1.2 was revised to expand the discussion of tritium and operation of the Special Recovery Line. DOE knows how many pits contain tritium. The actual number and types of pits containing tritium are classified. Pits with tritium would be handled in the Special Recovery Line. Tritium is removed from the pit and either captured for use or oxidized to tritiated water and captured for disposal as LLW. The tritium included in the waste estimates and emissions were bounded and analyzed in this SPD EIS. The presence of tritium would be confirmed when the pit is unpacked from the shipping container and would also be obvious when the pit is bisected. Tritium would be separated from the pit components in the Special Recovery Line, and all parts would be surveyed for tritium before being moved for further processing. These steps would reduce the probability of pyroprocessing of plutonium contaminated with tritium to a level that is not considered credible. However, if it were to happen the tritium would be volatilized and escape through the facility's ventilation system since HEPA filters cannot capture tritium. The resulting tritium release to the atmosphere would be of smaller consequence than the design-basis accident already presented in this SPD EIS for a tritium release at the pit conversion facility during a glovebox fire because this accident includes tritium contaminated parts from multiple pits being affected. The processing schedule for specific pits has not been finalized. The tritium at risk in the SPD EIS accident analysis and the tritium emissions to the atmosphere are conservative estimates that bound the potential environmental impacts of pit disassembly and conversion operations.

FD145-2

Pit Disassembly and Conversion

Section 2.4.1.2 was revised to include a description of the processes of verifying the contents of pit shipments and the requirement to survey incoming pits for tritium contamination. The method for determining the types of pits that are contaminated with tritium is classified.

The remainder of this comment is addressed in response FD145-1.

On page 3, paragraph one, the report states, "Because of their construction, some pit types will require capabilities in addition to those tested in the ARIES pilot demonstration. Number and types of pits to be processed in a facility may not be defined until the final implementation of weapons reduction treaties."

- Are there any other pit types besides those containing tritium that require extra capabilities?
- Is DOE considering all potential pit types in the PDCF?

3

On page 2 in the fourth paragraph, the report states that the initial demonstration project involved only seven pit types that "were generally representative of the larger stockpile and relatively straightforward in their construction so there would be no special complications in the ARIES pilot demonstration."

- What special complications are anticipated in the larger-scale plutonium pit disassembly and conversion demonstration and full scale facility?
- Where are these special complications reported to the public in the Draft SPDEIS? Will DOE report these special complications in the Final SPDEIS?
- Are the original seven pit types selected for the demonstration "bonded" pits?

4

On page two of the report is a table showing the potential impurities in the plutonium in plutonium pits.

- Where was this list of impurities reported in the Draft SPDEIS?
- In what end product will these impurities appear? DOE should give a detailed description of whether the impurities will become part of the air pollutant stream, the mixed-waste stream, or the
- If the impurities are converted to air pollutants, who will regulate these air emissions?

5

STAND of Amarillo believes the *ARIES Source Term Fact Sheet* should be added as an Appendix to the Final SPDEIS, and is attaching a copy for inclusion.

These comments will be supplemented in the future.

Sincerely:

Don Moniak
Program Director
STAND of Amarillo, Inc.

FD145

FD145-3

Pit Disassembly and Conversion

Some pit types have unique features beyond those issues associated with the presence of tritium that may require special handling tools, cutting tools, or procedures. DOE is considering all potential pit types in the pit conversion facility and would actually disassemble up to 250 representative pits during the pit disassembly and conversion demonstration currently being conducted at LANL.

FD145-4

Pit Disassembly and Conversion

The pit disassembly and conversion demonstration was expanded to include all pit types in order to avoid potential special complications in a full-scale pit conversion facility. Specifics of the special complications related to the disassembly of some pits discussed in the LANL fact sheet are classified. The environmental impacts resulting from the disassembly of all of the pit types that could be dispositioned through the pit conversion facility were addressed in the analysis presented in Chapter 4 of Volume I. The original seven pit types selected for the demonstration were bonded pits.

FD145-5

Pit Disassembly and Conversion

Information presented in the ARIES fact sheet referred to by the commentor was considered in this SPD EIS. Section 2.4.1 was revised to acknowledge the presence of potential impurities in the pits to be dismantled. Appendix H was revised to discuss the inclusion of these impurities in the LLW and TRU waste streams. All gaseous effluent streams coming from the facility would be thoroughly scrubbed or filtered to reduce the amount of undesirable particulates and pollutants. Air leaving gloveboxes in the process line would be filtered through three stages of HEPA filters. By the time any of the impurities joined the facility's exhaust stream, they would likely be in the subparts-per-billion range. Any impurities that were converted to air pollutants would be subject to Federal, State, and local air quality regulations. Some impurities may remain with the plutonium which would be passed through the plutonium-polishing process in the MOX facility as described in the revised Section 2.4.3. In instances of the material being sent directly to the immobilization facility, as in Alternatives 11 and 12, the plutonium could be fed directly into the process. The ARIES demonstration project was analyzed in the *Pit Disassembly and Conversion Demonstration EA* (DOE/EA-1207, August 1998), which is available on the MD Web site at <http://www.doe-md.com>.

Preconceptual Documentation for the ARIES Facility
ARIES Source Term Fact Sheet

ARIES Source Term

Description

At the end of the Cold War, the United States maintained a large, diverse stockpile of more than 20,000 nuclear weapons (Stockpile Management Preferred Alternatives Report, February 1996). In 1995, the Department of Defense published the Nuclear Posture Review (NPR, 1995), the results of a 10-month comprehensive review to determine the role of nuclear weapons in US security. The report recognized that the security environment had changed dramatically since the end of the Cold War and recommended large reductions in the nuclear weapons stockpile. However, it also recognized the current instability and uncertainty in countries that still control a nuclear arsenal and recommended maintaining a much smaller, enduring nuclear stockpile in the eventuality of disruptions in relationships with these countries. The recommended size of the enduring stockpile was assumed to be 3,500 nuclear warheads, the number permitted after achieving full reductions called for in the ratified Strategic Arms Reduction Treaty (START) I and in the currently unratified START II. Thus, in the foreseeable future, more than 16,500 nuclear weapons could be dismantled in the United States.

A portion of these excess weapons have already been removed from the active stockpile. Plutonium from the pits of these decommissioned nuclear weapons is part of the 38.2 metric tons of weapons-usable plutonium declared excess to national security needs as part of the Department of Energy (DOE) Openness Initiative (Openness Press Conference Fact Sheet, February 6, 1996). The disposition of excess plutonium from the pits of dismantled weapons, the retirement stockpile, is the responsibility of the Department of Energy Office of Fissile Material Disposition (DOE-MD). To comply with Presidential Directive (Clinton, September 23, 1993), plutonium must be extracted from pits by the Advanced Recovery Integrated Extraction System (ARIES) or some other process to make it available for international accountability without transferring weapons design information.

The strategic reserve contains nuclear weapons that have not been retired but are not part of the enduring stockpile. As weapon dismantlement and other programs continue to be reviewed, plutonium in some of the weapons from the strategic reserve may also be declared excess to national security needs and offered for international inspection. These pits will also require processing by ARIES, or a process with similar capabilities.

The total number of pits, and the corresponding quantities of plutonium in weapons in the retirement stockpile, the strategic reserve, and the enduring stockpile may be found in the classified report "Selection of Pits for Integrated Demonstration of ARIES," (Brough et al., 1996).

Preliminary schedules for surplus weapons-usable plutonium disposition estimate 10 years of operation for the pit conversion process (DOE-MD-003, July 17, 1996).

STAND OF AMARILLO, INC.
DON MONIAK
PAGE 4 OF 6

Preconceptual Documentation for the ARIES Facility
ARIES Source Term Fact Sheet

Description cont.

There are roughly 40 different pit types. Pits can be generically characterized as nested shells of materials in different configurations and constructed by different methods. Elements of construction that may be found in pits processed by ARIES include the following: vanadium, erbium, titanium, chromium, boron (enriched in ¹⁰B), aluminum, stainless steel, tritium (³H), beryllium, plutonium, uranium (²³⁵U enriched and depleted), and gallium. Maximum concentrations of impurities in plutonium are as follows.

Element	Concentration (PPM)	Element	Concentration (PPM)
Aluminum	*	Nickel	**
Americium	200	Neptunium	100
Boron	50	Lead	100
Beryllium	3	Silicon	*
Carbon	200	Tin	100
Calcium	500	Tantalum	100
Cadmium	10	Thorium	100
Chromium	100	Titanium	100
Copper	100	Uranium	100
Iron	**	Tungsten	200
Gallium	*	Zinc	100
Magnesium	500	Tritium	10 mCi/kg
Manganese	100		

*For Ga, Al, and Si, the limit is 4 (ppm Ga) + 10 (ppm Al) + 10 (ppm Si) < 1300 ppm.

**Fe + Ni < 400 ppm

Relation to the Study

Detailed knowledge of the rate of throughput and the physical and chemical nature of the pits are required to do detailed design work on an ARIES facility.

Status

The ARIES pilot demonstration will process 50 pits consisting of seven design types. This selection was made entirely from pit types currently in the retirement stockpile. Selection criteria were established to select types that were generally representative of the larger stockpile and relatively straightforward in their construction so there would be no special complications in the ARIES pilot demonstration (Brough et al., 1996).

The report by Brough et al., 1996, includes a generalized summation and categorization of all the pit types in the nuclear stockpile. There are however, detailed descriptions only for the seven types that will be processed in the ARIES pilot demonstration.

Preconceptual Documentation for the ARIES Facility
ARIES Source Term Fact Sheet

Issues	<p>A facility will be required to process all pit types declared excess to national defense needs. A classified report similar to the one by Brough et al., 1996, containing information about all pit types to be processed will be required. Because of their construction, some pit types will require capabilities in addition to those tested in the ARIES pilot demonstration. Number and types of pits to be processed in a facility may not be defined until the final implementation of weapons reduction treaties.</p> <p>A significant number of pits processed by the ARIES facility will contain tritium. None of these pits were selected as part of the ARIES pilot demonstration because of the difficulties associated with handling tritium. Decisions regarding the presence of tritium will be made before processing pits in the ARIES facility. These decisions may be based upon prior knowledge or upon a sampling strategy for detecting tritium. A strategy for detecting tritium in pits was devised while planning for the reconfiguration of the nuclear stockpile complex. Tritium-containing pits will be sent to a special tritium recovery module. Processes for disassembling tritium-bearing pits are being developed at Los Alamos. When development is completed, these processes must be included in the ARIES facility design and construction.</p>
Options	<p>Before final decisions are made regarding the number and type of pits to be converted, working assumptions can be constrained on the low side by the requirements to process the current retirement stockpile. On the high side, system requirements can be defined by all pits that will not be part of the enduring stockpile.</p>
Implementation	<p>Space and equipment needs for the ARIES facility will be defined by the number and types of pits that will be processed and by the period of time allocated to process them.</p>
References	<p>Department of Energy, "Stockpile Management Preferred Alternatives Report, in Support of the Stockpile Stewardship and Management Programmatic Environmental Impact Statement," draft (February 1996).</p> <p>Department of Defense, "Nuclear Posture Review," in the Annual Defense Report, ISBN 0-16-048573-8 (1995).</p> <p>Department of Energy Office of Congressional, Public, and Intergovernmental Affairs Openness Press Conference Fact Sheets, "Department of Energy Declassifies Location and Forms of Weapons-Grade Plutonium and Highly Enriched Uranium Inventory Excess To National Security Needs" (February 6, 1996).</p> <p>President Bill Clinton, "US Nonproliferation and Export Control Policy," Presidential Decision Directive-13 (September 23, 1993).</p> <p>Winslow S. Brough, Dewey S. Ravenscroft, and Wendel Brown, "Selection of Pits for Integrated Demonstration of ARIES," Los Alamos National Laboratory report CLY96-0010 (1996).</p>

Preconceptual Documentation for the ARIES Facility
ARIES Source Term Fact Sheet

References cont. Department of Energy Office of Fissile Materials Disposition, "Technical Summary Report for Surplus Weapons-Usable Plutonium Disposition," DOE-MD-003, Rev. 0 (July 17, 1996) Figures 5-1-5-7.

STAND of Amarillo, Inc.

August 14, 1998
STAND COMMENT # 3

Surplus Plutonium Disposition Draft Environmental Impact Statement
(Draft SPDEIS)

Office of Fissile Materials Management
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, D.C. 20585

Dear Department of Energy, Office of Fissile Materials Management:

RE: Plutonium Pit Disassembly and Conversion and Beryllium-Clad Plutonium Pits

On page 2-14 of the Draft SPDEIS is a "depiction" of a plutonium pit (Figure 2-6) that illustrates a pit with a stainless steel case. In the November, 1997 Defense Nuclear Facilities Safety Board (DNFSB) Technical Report 18: *Review of the Safety of Storing Plutonium Pits at Pantex*, there are frequent references to "beryllium-clad" plutonium pits.

- Why are plutonium pits not depicted with beryllium cladding?
- In the Final SPD-EIS, DOE should define the differences in processes, waste streams, and health hazards expected from processing beryllium-clad pits versus stainless-steel-clad pits.
- Since beryllium clad pits are more susceptible to corrosion from chlorine and moisture, what measures will be taken to insure these pits are intact upon arrival at the PDCF?

Also on page 2-14, it states that gallium is "alloyed" with plutonium in pits and must be removed if the PDCF product is plutonium powder for use in MOX fuel.

- Does the gallium have to be removed if the PDCF product is plutonium powder for use in the immobilization facility?
- What other impurities that are listed on page 2 of the ARIES fact sheet are "alloyed" with plutonium and are a concern for either disposition option?

These comments will be supplemented in the future.

Sincerely:



Don Moniak
Program Director
STAND of Amarillo, Inc.

FD146-1

Alternatives

Section 2.4.1 was revised to include a discussion of beryllium as a potential impurity, as well as the reasons why beryllium processing would not be an issue at the pit conversion facility. Figure 2.6 was revised to change the term "stainless steel case" to "outer case"; it is not meant to portray all the variations in pit design and construction. Irrespective of the cladding material, the process would be the same for dismantling and converting all pits. As discussed in Section 2.4.1.2, the main criterion in determining how the pits would be dismantled depends on the presence of tritium, not beryllium. Because the beryllium is expected to remain in metal form at all times, the health hazards are minimized. The beryllium would be present in large pieces and cuttings created when the pit was bisected. These cuttings would be too large to become airborne. There would be no grinding; thus, there would not be any pieces of beryllium small enough to become airborne. Because the pieces and cuttings would be contaminated with trace levels of radioactive materials, they would primarily be disposed of as TRU waste and is included in the waste projections in this SPD EIS.

FD146-2

Plutonium Polishing and Aqueous Processing

Gallium and other impurities would not have to be removed if the plutonium dioxide from the pit conversion facility were to be used in the immobilization facility. Technically, the term "alloyed" refers to materials purposely added to metals to cause a change in physical characteristics. From this point of view, the elements other than gallium in the referenced table are deemed impurities. The levels given in the table are maximums; actual levels are being established based on review of archival data and sampling and analysis associated with ongoing R&D efforts. DOE has included plutonium polishing as a component of the MOX facility to ensure adequate gallium and impurity removal from the plutonium dioxide. Section 2.4.3 and the hybrid alternatives analyses in Chapter 4 of Volume I were revised to include a discussion of plutonium polishing.

Section 2.4.1 was revised to acknowledge the presence of potential impurities in the pits to be dismantled.

STAND OF AMARILLO, INC.
DON MONIAK
PAGE 1 OF 2

STAND of Amarillo, Inc.

September 15, 1998

STAND COMMENT # 4

Surplus Plutonium Disposition Draft Environmental Impact Statement (Draft SPDEIS)
Re: Plutonium Pit Disassembly and Conversion Demonstration Project

Office of Fissile Materials Management
 U.S. Department of Energy
 1000 Independence Avenue, SW
 Washington, D.C. 20585

Dear Department of Energy, Office of Fissile Materials Management:

There are conflicting objectives being reported for the plutonium pit disassembly and conversion demonstration project. On the one hand, the demonstration project research and development contractors at Los Alamos National Laboratory describe the project as being essential for designing the plutonium pit disassembly and conversion facility (PDCF):

- On Page 2 of the ARIES Fact Sheet, it states in reference to the Pilot Demonstration Program at Los Alamos that, "detailed knowledge of the rate of throughput and the physical and chemical nature of the pits are required to do detailed design work on an ARIES facility."
- At the MOX Industry Conference in Atlanta on May 21, 1998, demonstration project personnel stated that the data from the ARIES demonstration is "needed to support PDCF design."
- On the other hand, DOE has characterized the demonstration project as more of a supplement to the design work:
 - On Page 1-11 of the Draft SPDEIS, DOE wrote that the demonstration project, "would help 'fine tune' the operational parameters of the pit conversion facility."
 - In the Plutonium Pit Disassembly and Conversion Environmental Assessment Pre-Approval Review, DOE wrote that the resulting experience from the proposed demonstration project would "be applied to expedite the design of the production disassembly and conversion facility should it be decided to construct this facility in the SPDEIS ROD."

What is the exact purpose of the demonstration project? There does not seem to be a consistent set of objectives being reported.

1

FD302-1

Pit Demonstration EA

DOE believes that the *Pit Disassembly and Conversion Demonstration EA* (DOE/EA-1207, August 1998) clearly sets forth the basic objectives of this demonstration, as follows: demonstrate the feasibility of the pit disassembly and conversion processes; test various processes for the different parts of the pit disassembly and conversion process to optimize procedures and parameters and reduce dose to workers (as the number of pits to be dismantled would significantly increase); develop processes, procedures, and equipment for the disassembly of all types of surplus pits; and demonstrate that the plutonium metal from pits of varying types can be consistently converted to an oxide form that is suitable for use as feed for immobilization and MOX fuel fabrication.


As the EA also reflects, the resulting experience from this demonstration would be used to supplement information developed to support the design of the full-scale conversion facility should DOE decide to construct that facility. It was never DOE's intention that this demonstration would be the only source of information relevant to the design work for a full-scale pit conversion facility. DOE does not believe that the examples provided by the commentator to support the position that there are conflicting objectives on this demonstration contradict DOE's position on the use of information from the demonstration, but simply use different but compatible words to describe that process.

How can DOE propose to design and construct a facility before detailed information from the demonstration project is available? One of the "Lessons Learned" from plutonium pit storage was that, "in order to obtain cost avoidance and remain on schedule, it is important to identify all requirements prior to design."¹

At what point will DOE decide whether the technologies it is proposing to use are feasible at an industrial scale?

DOE should determine what the requirements are for the pit disassembly and conversion facility before it endeavors to build the facility.

Sincerely:



Don Moniak
Program Director
STAND of Amarillo, Inc.

2

FD302

FD302-2

Pit Demonstration EA

DOE is not proposing to design and construct a full-scale pit conversion facility before information from the pit disassembly and conversion demonstration is available. Should DOE decide to build a full-scale pit conversion facility, the tentative schedule reflects that construction would begin sometime in 2001. Facility design, however, would take place during approximately 1999-2001. The demonstration would focus on equipment design and process development. Because the demonstration could continue for up to 4 years, information transfer conducive to fine-tuning of the operational parameters of a pit conversion facility can be provided continually throughout the facility design phase. Also, because the information from the demonstration would be used to supplement other information developed to support the design of a full-scale pit conversion facility, it would not be necessary for the demonstration to be completed before beginning facility design and initial construction. These processes can be carried on simultaneously. While DOE believes that a full-scale pit conversion facility is feasible, it would not build such a facility until it has been determined that the proposed technologies and required capabilities it is proposing are clearly shown to be feasible. The pit disassembly and conversion demonstration will play a significant role in this process.

STAND OF AMARILLO, INC.
DON MONIAK
PAGE 1 OF 3

STAND of Amarillo, Inc.

September 15, 1998

STAND COMMENT # 5

Surplus Plutonium Disposition Draft Environmental Impact Statement (Draft SPDEIS)
Re: Alternatives for Plutonium pit disassembly and conversion

Office of Fissile Materials Management
 U.S. Department of Energy
 1090 Independence Avenue, SW
 Washington, D.C. 20585

Dear Department of Energy, Office of Fissile Materials Management:

The Draft SPDEIS does not contain, as required by NEPA, a discussion or analysis of the reasonable alternatives that are available to disassemble plutonium pits and convert plutonium metal to a declassified form suitable for both long-term disposition and international inspections and safeguards.

In related NEPA documents, DOE has never evaluated the range of options available for disassembling plutonium pits and converting the plutonium in the pits to meet storage and disposition objectives. Instead, DOE chose a plutonium pit disassembly and conversion process (ARIES) that was not originally designed to produce materials suitable for disposition technologies, and which the MOX Industry considers a controversial technology. By pursuing this approach to plutonium pit disassembly and conversion, DOE has been in violation of NEPA for failing to conduct an analysis of the full range of alternatives for demilitarizing plutonium pits and converting plutonium to a form suitable for long-term storage and/or disposition.

In the SPDEIS, DOE must:

1. *Analyze the full range of technological options that are available to disassemble plutonium pits and convert plutonium metal to a declassified form suitable for both long-term disposition and international inspections and safeguards.*
2. *Analyze the range of technical options that have been addressed in other DOE and contractor analyses. In its Technical Risk Assessment (TRA)¹ for the PDCF, DOE contractors evaluated three options for plutonium pit disassembly and conversion:*
 - The Baseline Option which would require processing of whole pits at the PDCF but not pit parts and plutonium not associated with pits; production of both metal and oxide by the PDCF; and the only contaminants of concern for MOX fuel that would be removed is gallium.

¹ Kidinger, John, ARES Corporation, John Darby and Desmond Stack, Los Alamos National Laboratory, 1997. Technical Risk Assessment for the Department of Energy Pit Disassembly and Conversion Facility Final Report. September, 1997. LA-UR-97-2236.

FD303-1

Alternatives

DOE determined that aqueous processing was not a reasonable alternative for pit conversion because current aqueous processes using existing facilities would produce significant amounts of waste, and aqueous processing would complicate international safeguard regimes. Dry processing was analyzed in the *Storage and Disposition PEIS* and this SPD EIS.

Processing pits and clean metal plutonium in the pit conversion facility is analyzed in this EIS. This analysis bounds all of the variations of starting materials listed in the comment that could be processed in the pit conversion facility. This statement is based on two facts. First, the amount of clean metal that would be processed in the pit conversion facility is small compared with the amount of material coming from pits. Second, DOE is not proposing to process pit parts or other plutonium not associated with pits in the pit conversion facility. These materials would be converted to an oxide form in the conversion area of the immobilization facility. DOE is not including the plutonium-polishing process (a small-scale aqueous process) as part of the pit conversion facility; that process would be part of the MOX facility. DOE would use only dry processes in the pit conversion facility. For this reason, the thermal process for removing gallium may not be needed in the pit conversion facility (see revised Section 2.4.1.2). Section 2.4.3 was revised to include a description of the plutonium-polishing process that would be used in the MOX facility. Plutonium dioxide is the starting form for the disposition of surplus plutonium for either the immobilization or MOX approach. This EIS analyzes the environmental impacts of converting surplus pits into plutonium dioxide that can be used in either the immobilization or MOX facility. No additional aqueous processing would be necessary to prepare the plutonium dioxide for immobilization.

STAND OF AMARILLO, INC.

DON MONIAK

PAGE 2 OF 3

- The MOX Grade Oxide Option which would require processing of all plutonium pits and plutonium not associated with pits; production of both metal and oxide; production of plutonium oxide that will be of MOX fuel quality that will involve removing other contaminants such as americium-241; and processing to stabilize and recover materials from classified internal parts. This option appears to most closely resemble the Design-Only Conceptual Design Concept for the PDCF and the presentations made by LANL personnel at the MOX industry conference in Atlanta.
- The Metal-Only Option in which only "nonproblem pits will be processed and the product will be metal only, with no oxide produced."

Both the MOX and Baseline Options, as well as the conversion process for the immobilization facility, involve the use of the HYDOX process, even though the Technical Risk Assessment reported, "significant disagreement among technical persons as to whether HYDOX is required and whether or not HYDOX is the preferred technique when producing plutonium oxide." The report further stated that, "many of the pits, perhaps as many as 80%, can bypass the hydride/dehydride (conversion to metal) module as the plutonium metal can be mechanically separated from the pits."

3. Analyze the various options involved with "aqueous" processing, also known as reprocessing and "chemical purification," that DOE has repeatedly left open as an option to thermal processes. At the May 20-21, 1998 MOX Industry Conference in Atlanta, considerable objections were raised to the proposed plutonium conversion processes by members of consortiums seeking to design, construct, and operate a MOX fuel fabrication facility. DOE has repeatedly cited aqueous processes as an option to produce MOX fuel feedstock if the proposed thermal processes are not demonstrated to be feasible to meet this objective. At the Atlanta MOX conference, LANL personnel identified "aqueous derived oxide" as another "near future" source of plutonium oxide.

More recently, DOE allowed consortiums bidding to construct and operate a MOX fuel fabrication facility to add a "plutonium polishing facility." A plutonium polishing facility would be added to the MOX fuel plant and where plutonium metal or oxide produced at the PDCF "can be dissolved...in nitric acid with the minimal usage of hydrofluoric acid, and its complexing agent, aluminum nitrate."²

In the Draft SPDEIS, DOE analyzed aqueous processing only as a "contingency." This is an insufficient analysis, as DOE clearly considers the "polishing" process to be a reasonable, and even likely alternative. By identifying liquid acid plutonium pit processing only as a contingency, DOE also skewed the analysis in favor of the MOX option.

² Draft Data Report for Generic Site Add-On Facility for Plutonium Polishing, 1998, Oak Ridge National Laboratory

STAND OF AMARILLO, INC.
DON MONIAK
PAGE 3 OF 3

4. Identify and analyze the range of alternatives for a final product from plutonium pit disassembly and conversion.

DOE should identify and analyze the different requirements--in terms of activities, hazards, impacts, and risks--between the various plutonium end-products that could result from plutonium pit disassembly and conversion. For example, the alternative of gallium removal is not discussed in the context of immobilization. The various end products DOE should analyze include:

- plutonium oxide suitable for use in Mixed Oxide (MOX) fuel;
- plutonium oxide suitable for use in the Ceramification Can-In-Canister variant of immobilization;
- plutonium oxide suitable for both storage and disposition;
- plutonium metal and/or oxide suitable for storage;
- plutonium metal suitable for storage while awaiting conversion for disposition.

1

Specifically, DOE must identify whether dry plutonium conversion processes being proposed for the immobilization facility will produce a suitable product for the immobilization technology, or whether aqueous processing is also necessary for immobilization.

Sincerely:



Don Moniak
Program Director
STAND of Amarillo, Inc.

STAND of Amarillo, Inc.

September 15, 1998

STAND COMMENT # 6

Surplus Plutonium Disposition Draft Environmental Impact Statement (Draft SPDEIS)

Re: Use All Available Information

Office of Fissile Materials Management
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, D.C. 20585

Dear Department of Energy, Office of Fissile Materials Management:

DOE must incorporate all available information about plutonium disassembly and conversion processes into its NEPA process and documents. The public should be fully informed as to what is actually being proposed, the actual range of impacts and risks from proposed activities, and the technical uncertainties involved with the proposed plutonium processing technologies. Since the January 1997 decision on the Storage and Disposition PEIS, DOE has made considerable changes that are not reflected in the Record of Decision, and is obligated to use this opportunity to address those changes and provide to the public a clear picture of its proposed actions and ongoing activities.

DOE is already implementing a procurement process for the design, construction, and possible operation of a full scale plutonium pit disassembly facility. DOE already has accepted bids for the Architecture and Engineering services for designing the facility. Procurement solicitations are not pursued casually due to the high costs to industry to compile bid packages. The information pertaining to procurement must be of high quality to avoid lengthy and costly litigation.

However, for all parts of the plutonium disposition program, the information pertaining to procurement is often very different from the information presented in DOE's NEPA documents. Two documents related to the procurement process that are uncited and not referenced in the PDCE-*EA*, yet provide considerably more accurate and comprehensive information are:

- Los Alamos National Laboratory and Fluor Daniel, Inc. 1997 *Design-Only Conceptual Design Report for the Pit Disassembly and Conversion Facility*. Project No. 99-D-141. Prepared for the DOE Office of Fissile Materials Disposition. December 12, 1997. (PDCE Design Report)

The general design diagrams of the PDCE (Figures 2-7 to 2-9, Pages 2-16 to 2-18) reported in the Draft SPDEIS are considerably different than the design diagrams in the Design Report. DOE should explain these differences in the SPDEIS.

- Kidinger, John, ARES Corporation, John Darby and Desmond Stack, Los Alamos National Laboratory. 1997 *Technical Risk Assessment for the Department of Energy Pit Disassembly and Conversion Facility Final Report*. September, 1997. LA-UR-97-2236.

FD304-1

General SPD EIS and NEPA Process

DOE acknowledges the commentor's remarks concerning the completeness of this SPD EIS, public information, technical uncertainties, and changes since the January 1997 ROD on the *Storage and Disposition PEIS*. DOE has prepared this SPD EIS in accordance with the provisions of NEPA (42 U.S.C. 4321 et seq.) and the related CEQ and DOE implementation regulations (40 CFR 1500 through 1508 and 10 CFR 1021, respectively). It is intended as a source of environmental information for the DOE decisionmakers and the public. The primary objective of this EIS is a comprehensive description of proposed surplus plutonium disposition actions and alternatives and their potential environmental impacts. As with any EIS, technical information is included to the extent that it is required to understand those actions and impacts. Plutonium-processing technologies proposed by DOE are discussed in Sections 2.4.12 and 2.4.3.2. Disposition facilities analyzed in this EIS are consistent with the decision made in the *Storage and Disposition PEIS* ROD as amended.

FD304-2

Pit Disassembly and Conversion

DOE has accepted qualification bids only for the design of the facility and agrees that information pertaining to procurement must be of high quality. Qualification bids are relatively inexpensive to prepare. Neither of the two documents cited by the commentor was used in preparing the *Pit Disassembly and Conversion Demonstration EA* (DOE/EA-1207, August 1998). The information presented in those two documents is not specific to the demonstration as it would be set up within TA-55 at LANL. While those documents contain information beyond the scope of this EA, the information may be of interest to the public. Therefore, both documents were referenced in the final EA as sources of additional information.

There are differences in the design diagrams because this SPD EIS presents a more conservative view than the Design-Only Conceptual Design Report, which was a preliminary effort, to establish a bounding condition for analysis of environmental impact.

STAND OF AMARILLO, INC.
DON MONIAK
PAGE 2 OF 3

The TRA exemplifies of how DOE technical documents drafted for internal distribution are generally coherent, clear, concise, and comprehensive. In contrast, documents written for public distribution—such as the SPDEIS—are generally incoherent, confusing, vague, redundant, and incomplete.

- DOE must incorporate the findings of the Technical Risk Assessment into the Final EIS, and could include it as a separate appendix.
- DOE should incorporate the recommendations of the TRA into the final SPDEIS and discuss to what extent the findings in the TRA were incorporated into the Draft SPDEIS.

The TRA provides additional support for removing Pantex as a plutonium processing candidate site. The strongest recommendation made by the TRA (Page 69) is that, "it is recommended that the site selection process for the PDCF strongly consider the existing site capabilities and experience in those areas." It is not evident that DOE has considered the capabilities and experience of the candidate sites during the SPDEIS process.

The TRA team (Page 74) reached the same conclusions as the general public, that "the site-selection process for the PDCF now in progress includes a very limited evaluation of attributes." Yet, DOE forged its evaluation to fit the desired decision, rather than an openly and honestly evaluate reasonable and realistic criteria that would guide a decision for the public good.

In general, the TRA's lowest risk rankings correspond to those processes that DOE has identified as site selection criteria, and the highest risk rankings correspond to processes that DOE has not identified as site selection criteria.

- The TRA's lowest risk ranking was assigned to the "Safeguards and Security System," yet DOE is identifying safeguards and security as a key evaluation criteria.
- Pit shipments were not identified by the TRA as a critical risk, whereas plutonium product shipping made the critical risk list. DOE reversed this risk ranking in the Draft SPDEIS.
- Radiation monitoring and dosimetry, relatively minor programs at Pantex, are listed as a high risk factor in the TRA. Radiation accident potential is listed as high risk factor for key PDCF components such as HYDOX, Gallium Removal, and chemical purification.

Sincerely:



Don Montiak
 Program Director
 STAND of Amarillo, Inc.

FD304

FD304-3

Pit Disassembly and Conversion

Technical risk assessments are important in that they enable the decisionmaker to make an informed decision. The TRA addresses technical, cost, and schedule risks of the proposed pit conversion facility. Findings and recommendations presented in the TRA have been taken into consideration in developing the proposed pit disassembly and conversion process, and research is ongoing to minimize the risk factors that have been identified.

This SPD EIS characterizes the bounding environmental impacts of the pit disassembly and conversion operations. Insofar as the technical risks expressed in the TRA affect these environmental impacts, they are reflected in this EIS.

FD304-4

Alternatives

Section 2.3.1 of the SPD Draft EIS explained that a range of 23 reasonable alternatives remained after evaluating over 64 options against three screening criteria: worker and public exposure to radiation, proliferation concerns due to transportation of materials, and infrastructure cost. These 23 reasonable alternatives were evaluated in the SPD Draft EIS. After the Draft was issued, DOE eliminated as unreasonable the 8 alternatives that would involve use of portions of Building 221-F with a new annex at SRS for plutonium conversion and immobilization, thereby reducing the number of reasonable alternatives to the 15 that are analyzed in the SPD Final EIS. DOE has analyzed each environmental resource area in a consistent manner across all the alternatives to allow for a fair comparison among the alternatives and among the candidate sites for the proposed surplus plutonium disposition facilities. The results of these analyses, presented in Chapter 4 of Volume I and summarized in Section 2.18, demonstrate that the activities would not have major impacts on any of the candidate sites.

While the findings of the TRA were considered as discussed in response FD304-3, other siting considerations were also used as discussed above. Where there are differences between the findings in the TRA and the data used in this EIS, efforts have been made to use the latest data.

As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure. In determining its preference, DOE also considered the transportation requirements for each alternative. All the candidate sites were considered to have adequate safeguards and security systems in place, as well as the capability to perform the necessary radiation monitoring and dosimetry. Potential accidents for the three proposed surplus plutonium disposition facilities at all of the DOE candidate sites are analyzed in Chapter 4 of Volume I and Appendix K. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

STAND OF AMARILLO, INC.
DON MONIAK
PAGE 1 OF 3

STAND of Amarillo, Inc.

September 15, 1998

STAND COMMENT # 7
Surplus Plutonium Disposition Draft Environmental Impact Statement (Draft SPDEIS)
Re: Analyzing Significant Impacts

Office of Fissile Materials Management
 U.S. Department of Energy
 1000 Independence Avenue, SW
 Washington, D.C. 20585

Dear Department of Energy, Office of Fissile Materials Management:

There will be significant direct and cumulative effects of the preferred alternatives in the Draft SPDEIS that have not been properly analyzed in by DOE.

A. The most significant direct effects of the proposed action will be air emissions of radioactive and nonradioactive materials.

According to the Draft SPDEIS, routine releases of tritium at the Pit Disassembly and Conversion Facility (PDCF) during normal operations are expected to be as high as 1100 curies per year. For Pantex, this would constitute a significant impact. During current missions and operations, a similar impact would only occur only in the event of an accident. The proposed allowable and routine tritium releases would be more than 10,000 times higher than the releases from routine operations at Pantex today.

DOE also failed to report known sources of air pollution that will result from the proposed action. Most importantly, DOE neglected to identify and address beryllium air emissions. The PDCF Design-Only Conceptual Design Report states that, "the National Emissions Standards for Hazardous Air pollutants (NESHAP's) are applicable to the PDCF, specifically regulating emissions from beryllium and radionuclides to the ambient air" and that "an application for approval of construction or modification of an existing source is mandatory for the owner or operator of a beryllium or radionuclide operations." Clearly, the design documents identify the PDCF as a beryllium operation.

In its 1994 Environmental Checklist for ARIES, LANL wrote that, "Beryllium is handled in the PDCF as relatively large pieces. The pit cutting operations will make beryllium chips and turnings, but these are relatively large particles not easily entrained." However, the ARIES EC also contained the statement that, "the expected emissions are within the quantity allowed under the current beryllium permit for TA-55-4."¹

¹U.S. DOE 1994. Memorandum from M. Diana Webb, NEPA Compliance Officer to Jeff Robbins, NEPA Compliance Officer. Re: DOE Environmental Checklist.

Page 1 of 2

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FD305

FD305-1

Human Health Risk

The bounding alternative would be locating the pit conversion and MOX facilities at Pantex (see Alternative 9). About 0.000104 Ci/yr of plutonium and americium and 1,100 Ci/yr of tritium, total, would be released to the atmosphere from these facilities. In 1996, the airborne releases from Pantex operations were 1.6×10^{-17} Ci of thorium 232, 0.000146 Ci of uranium 238, and 0.103 Ci of tritium (1996 Environmental Report for Pantex Plant, DOE/AL/65030-9704, May 1997). While the commentor is correct in stating that plutonium processing would result in radiation releases greater than those from current operations, including a tritium release 10,000 times greater, the doses and resulting adverse health effects associated with the increased releases would be very small. The dose to the MEI from these facilities would be increased by 0.068 mrem/yr, and the dose to the population living within 80 km (50 mi) of Pantex in 2010 would be increased by 0.59 person-rem/yr. For 10 years of normal operation, the increased risk of an LCF to the MEI would be 3.4×10^{-7} , and the increased number of LCFs to the 80-km (50-mi) population would be 0.003.

FD305-2

Air Quality and Noise

The 1994 analysis performed by LANL referred to the possibility of airborne releases of beryllium, a hazardous air pollutant, from pit disassembly and conversion. Subsequent analysis from LANL indicates that there would not be any airborne releases of beryllium (Pit Disassembly and Conversion Facility, Environmental Impact Statement Data Report—Pantex Plant, LA-UR-97-2909, June 1998). Because the beryllium is expected to remain in metal form at all times, the health hazards are minimized. The beryllium would be present in large pieces and cuttings created when the pit was bisected. These cuttings would be too large to become airborne. There would be no grinding; thus, there would not be any pieces of beryllium small enough to become airborne. Because the pieces and cuttings would be contaminated with trace levels of radioactive materials, they would primarily be disposed of as TRU waste and is included in the waste projections in this SPD EIS.

Section 2.4.1.1 was revised to discuss beryllium and its presence in the pit conversion facility.

C. The most significant cumulative effect is the introduction of plutonium processing missions to a DOE site that has never conducted these missions. In the Stockpile Stewardship and Management PEIS (1996), DOE reported that, "plutonium would not be introduced into a site that does not currently have a plutonium infrastructure because of the high cost of new plutonium facilities and the complexity of introducing operations into sites without current plutonium capabilities."

DOE identifies Pantex in numerous documents, including the Draft SPDEIS, as not having existing plutonium processing capabilities. DOE must analyze the high cost and complexity of introducing plutonium operations to Pantex, including, but not limited to developing the infrastructure required to a successful implementation of this mission—that adequately protects workers, the community, and the environment.

In addition, DOE must analyze the long-term cumulative effects of building new Category I nuclear facilities. These facilities will, in all likelihood, be used for subsequent plutonium missions, so the analyses for building and operating new plutonium facilities must take into account the probability of subsequent missions, including the environmental remediation that will follow.

Sincerely:



Don Moniak
Program Director
STAND of Amarillo, Inc.

FD305-3

Alternatives

The *Final Programmatic Environmental Impact Statement for Stockpile Stewardship and Management* (SSM PEIS) (DOE/EIS-0236, September 1996) states that the pit fabrication mission would not be introduced into a site that does not have an existing plutonium infrastructure because of the high cost of new plutonium facilities and the complexity of introducing plutonium operations into sites without current plutonium capabilities. The SSM PEIS states further that an important element of the site selection strategy is to maximize the use of existing infrastructure and facilities as the nuclear weapons complex becomes smaller and more efficient in the 21st century; thus, no new facilities were to be built to accommodate stockpile management missions. Accordingly, DOE considered as reasonable only those sites with existing infrastructure capable of supporting a pit fabrication mission. Although Pantex has the infrastructure to carry out its current weapons assembly and disassembly mission and nonintrusive pit reuse program, it was not considered a viable alternative for the pit fabrication mission because it did not possess sufficient capability and infrastructure to meet the SSM PEIS siting assumption stated above. Among the operations that were considered in developing siting alternatives for pit fabrication in the SSM PEIS were plutonium foundry and mechanical processes, including casting, shaping, machining, and bonding; a plutonium-processing capability for extracting and purifying plutonium to a reusable form either from pits or residues; and assembly operations involving seal welding and postassembly processing.

When comparing the site selection strategy for pit disassembly and conversion with that used for the pit fabrication mission, the siting criteria in the SSM PEIS have little or no bearing on siting criteria used in this SPD EIS. Pit disassembly and conversion do not require the foundry and mechanical processes discussed in the SSM PEIS and can be accomplished in a stand-alone facility. Also, the SSM PEIS siting assumptions include a requirement to use existing facilities, whereas, the pit conversion facility would be a new structure no matter where it is located.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support*

of Site Selection for Surplus Weapons-Usable Plutonium Disposition (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS and Washington, D.C.

D&D is discussed in Section 4.31. DOE will evaluate options for D&D or reuse of the proposed facilities at the end of the surplus plutonium disposition program. At that time, DOE will perform engineering evaluations, environmental studies, and further NEPA review to assess the consequences of different courses of action, including projected waste generation quantities.

STAND of Amarillo, Inc.

September 15, 1998

STAND COMMENT # 8
Surplus Plutonium Disposition Draft Environmental Impact Statement (Draft SPDEIS)
Re: Insufficient Analysis of Groundwater Impacts

Office of Fissile Materials Management
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, D.C. 20585

Dear Department of Energy, Office of Fissile Materials Management.

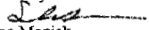
DOE must conduct a full analysis to address increased tritium contamination in regional groundwater resources at all candidate sites. STAND's primary concern is the Ogallala aquifer--regionally critical to both urban and rural areas--and other groundwater resources at Pantex. Because tritium concentrations in groundwater throughout the U.S. physically reflects historical DOE activities, DOE has much experience to reference. DOE must use this experience and report effects of tritium releases of past activities and, at a minimum, clearly identify pathways for tritium through the environment.

In the Draft SPDEIS DOE wrote that, "the Storage and Disposition PEIS concluded that the facility would not have any impact on groundwater quality. There are no new data available to indicate that this conclusion should be revisited." Indeed, significant new data are available to the public and this conclusion is absolutely inaccurate. Most significant is the operation of a Special Recovery line in the PDCF which would result in airborne emissions of 1,100 curies per year of gaseous tritium. These emissions represent a 10,000 fold increase over existing levels at Pantex

For a PDCF, DOE has indicated that, "the most severe consequences of a design basis accident...would be associated with a tritium release." (Page 4-89). The tritium release would involve "a major glovebox fire is assumed to heat multiple parts contaminated with up to 20 grams of tritium and convert it all to tritiated water vapor...resulting in a release of 20 grams through the stack to the atmosphere." This accident would release nearly 200,000 curies of tritium to the atmosphere. The risk of this accident occurring ranges from 1 in 10,000 to 1 in 1,000,000. The wide range of this risk estimate indicates great uncertainty in DOE's estimates.

When DOE was rationalizing plutonium pit storage at Pantex, it conducted a study evaluating the risks of contaminating the Ogallala aquifer with plutonium. This same approach is necessary for the design basis accident for the PDCF.

Sincerely:


Don Moniak
Program Director
STAND of Amarillo, Inc.

FD306-1

Human Health Risk

DOE acknowledges that the estimated gaseous tritium release of 1,100 Ci/yr from the pit conversion facility would result in a tritium release 10,000 times greater than existing levels at Pantex. However, these releases to the air would have no impact on groundwater quality during normal operations. The doses and resulting adverse health effects (via the inhalation and ingestion pathways) associated with this increased release would be very small. The dose to the MEI would be increased by 0.062 mrem/yr, and the dose to the population living within 80 km (50 mi) of Pantex in 2010 would be increased by 0.58 person-rem/yr. For 10 years of normal operation, the increased risk of an LCF to the MEI would be 3.1×10^{-7} , and the increased number of LCFs to the 80-km (50-mi) population would be 0.0029.

FD306-2

Facility Accidents

The assessment of consequences of the accidental tritium release is consistent with the methodology used in the *Final Programmatic Environmental Impact Statement for Tritium Supply and Recycling* (DOE/EIS-0161, October 1995). Unlike plutonium, oxidized tritium (i.e., water vapor) does not significantly deposit on the ground for subsequent percolation into the local groundwater except in cases of rain or dew. Pantex has a relatively arid climate, so the chance of these weather conditions at the time of an accident is slight.

Moreover, even if it were to happen, Section 4.6.1.2 of the *Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components* (DOE/EIS-0225, November 1996) indicates that actual movement of contaminated groundwater off the site would require about 10 to 20 years, and may take as long as 50 or more years to move a contaminant plume off the site using the most current test data. The half-life of tritium is 12 years; therefore, the actual quantity of any hypothetical contamination would be reduced by a factor of roughly 2 to 16 by the time it moved off the site. Because of these considerations, health consequences as a result of contamination of the Ogallala aquifer were not considered to be characteristic of a tritium release accident. Appendix K.1.4.2 was revised to include a discussion of the treatment of groundwater accidentally contaminated by tritium.

STAND OF AMARILLO, INC.
DON MONIAK
PAGE 1 OF 3

STAND of Amarillo, Inc.

September 28, 1998

STAND COMMENT # 09

Surplus Plutonium Disposition Draft Environmental Impact Statement (Draft SPDEIS)
Re: Insufficient Analysis of Visual Impacts of New Plutonium Facilities

Office of Fissile Materials Management
 U.S. Department of Energy
 1000 Independence Avenue, SW
 Washington, D.C. 20585

Dear Department of Energy, Office of Fissile Materials Management:

The Draft SPDEIS contains an insufficient and inconsistent analysis of the visual impacts of locating new plutonium facilities at Pantex. STAND believes that constructing and operating plutonium disposition facility or facilities in Zone 4 at Pantex would constitute an obvious, dramatic landscape change and thus have a negative impact on the visual quality of the area.

The Department of Energy must conduct a rigorous analysis—applying consistent methodology and criteria—of the effects on visual quality from new plutonium facilities at Pantex. The analysis must include an assessment of the effects on surrounding private property values created by major landscape changes. DOE must conduct an analysis of the changes in visual quality from constructing and operating plutonium facilities in Zone 4 at Pantex. A simple comparison of existing conditions in Zone 4 versus proposed conditions in Zone 4 shows a obvious change in the visual character.

Zone 4 Existing

No smokestack
 No manufacturing or processing facilities
 Storage facilities 14-16 feet high

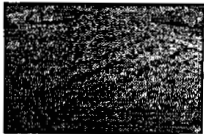


Figure 1: Aerial View of Zone 4 Storage Area at Pantex.
 (Credit: Robert Del Tredici)

Zone 4 Proposed

115-foot high smokestack at PDCF
 Two storied plutonium processing facilities
 Storage facilities would remain

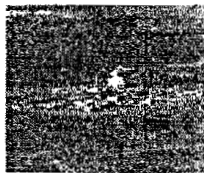


Figure 2: Aerial View of Industrial Area at INEEL.
 (Credit: INEEL)

FD334-1

Land Use and Visual Resources

On the basis of public comment and to correct inaccuracies, the Land Use and Visual Resources sections of Chapter 4 of Volume I for all the candidate sites were reviewed and revised, as appropriate, to ensure consistency in the analyses of the candidate sites. Specifically, Section 4.26.3.5.2 was revised to clarify that the proposed surplus plutonium disposition facilities would be the tallest and largest facilities in Zone 4 and would be visible from U.S. Route 60.

As a point of clarification, the “smokestack” referenced in connection with pit conversion facility is not intended to discharge smoke under normal operating conditions. It would be used to transport air from the building to the outside via the building’s ventilation system. The expected emissions from this stack are characterized in Appendixes G and J.

STAND Comment #9, Page 2 of 3

In the Draft SPDEIS, DOE neglected to consider the unique nature of the Pantex area. On clear high-pressure days, tall smokestacks are visible more than 15 miles away on the Southern High Plains. The Amarillo skyline is visible from Pantex--17 miles away.

In Section 4.26 of the Draft SPDEIS--"additional environmental resource analyses"--visual resources are discussed but not analyzed. For all "additional resources" DOE concluded (page 4-1) that there would be "minimal or no impacts at the candidate sites regardless of the disposition alternative being considered." The environmental consequences were derived by, "comparing facility characteristics and requirements from Chapter 2 and Appendix E with affected environmental information from Chapter 3."

The environmental information in Chapter 3 is inaccurate in terms of the Pantex visual resources assessment. Zone 4 at Pantex is not visible from U.S. Highway 60. The environmental information also does not present an accurate portrayal of the existing conditions in Zone 4.

As a result, for each candidate site DOE erroneously wrote (Section 4.26) that new facilities "would remain consistent with the industrialized character of the landscape and the current Visual Resource Management . designation." The impacts on visual resources are inaccurately presented as equal despite wide variation in topographical features, distance from proposed facilities to site boundary and private property, existing character of the proposed facility locations, and vegetation cover.

DOE did not conduct a consistent analysis for Pantex. Instead, it used very different criteria for assessing Pantex as compared to other sites, and then presented the impacts as equal. The following issues should be addressed and DOE should admit that there are clear distinctions between the four sites.

1. Pantex was analyzed for existing overall site conditions, not specific areas where proposed facilities would be located. DOE wrote (Page 4-328) that, "in height and size, the proposed facilities would be similar to buildings in other industrialized areas of the site." This is an inaccurate statement, as there are no facilities with smokestacks at Pantex, no Category I nuclear facilities, and no manufacturing buildings in Zone 4.

In contrast, DOE wrote that, "in height and size, the proposed facilities would be similar to existing buildings" in the specific areas, such as 400 at Hanford, INTEC at INEEL, and F-Area at SRS. These specific areas are already characterized by heavy industrialization where smokestacks are the highest and most dominant visual feature.

2. DOE described the tallest structures at Pantex as water towers, whereas the tallest structures at Hanford, INEEL, and SRS were described as smokestacks generally over 200 feet high. These features correspond to the existing heavy industrial character of the proposed locations at other sites. By contrast, the Zone 12 industrial area at Pantex is barely visible from the north end of the Pantex plant, and even the Zone 4 bunkers are not readily noticeable. A 115 foot smokestack

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FD334

FD334-2

Land Use and Visual Resources

To correct an inaccurate visual description of Zone 4, Section 3.4.10.2.2 was revised to state that the existing facilities in Zone 4 are not visible from the intersection of U.S. Route 60 and Texas FM 2373. Section 4.26.3.5.2 was revised to clarify that new structures and the stack associated with the proposed pit conversion facility would be visible from parts of U.S. Route 60.

FD334-3

Land Use and Visual Resources

Existing tall structures at Pantex include the 60-m (197-ft) meteorological tower located in the northeast portion of the site and the new water tower with a height of 44 m (145 ft) in Zone 11. Other tall structures are associated with the twin stacks of the steam plant with a height of 20 m (65 ft). There are currently no tall structures in Zone 4.

FD334-4

Land Use and Visual Resources

DOE acknowledges the commentor's conclusion that the descriptions of Hanford, INEEL, and SRS suggest existing heavy industrial character of those sites and the general lack of such features at Pantex, especially in regard to the addition of a 35 m (115 ft) smokestack, that would be readily visible and interrupt the current light industrial and agricultural landscape. As discussed in response FD334-1, Section 4.26.3.5.2 was revised to clarify that the proposed facilities would be the tallest and largest facilities in Zone 4.

STAND Comment #9, Page 3 of 3

would be very noticeable and would interrupt what is essentially a mixed landscape of very light industrial (Zone 4 storage) and agricultural.

3. By neglecting to consider the differences in vegetative cover and topography for the four sites, DOE arrived at the amusing conclusion that while impacts at SRS would be minimal because facilities would be invisible, highly visible facilities at Pantex would have no impact on visual quality.

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For the SRS analysis, DOE wrote that "facilities are generally not visible off the site because the views are limited by rolling terrain and heavy vegetation." At the other three sites, the views are not limited by vegetation, as they are all in open grassland or shrub-steppe environments. Distance and topography is a limiting factor at Hanford, as the 200 Area "cannot be seen from Columbia River or State Route 240." (Page 3-43, 3-44).

The contrast between these sites and Pantex is obvious. The distance from the proposed facilities to the private property boundary at Pantex would only be 1.1 miles and uninterrupted by topography or vegetative cover. DOE cannot legitimately claim that a 115 foot tall smokestack (such as that required for a PDCF) would not have a negative impact on the aesthetic values of the area and thus a negative impact on adjacent private property values

5

Sincerely:



Don Moniak
Program Director
STAND of Amarillo, Inc.

FD334

FD334-5

Land Use and Visual Resources

For the purpose of determining the radiation dose to the public and the onsite workers from normal operations, the stack associated with the proposed pit conversion facility was estimated to be 35 m (115 ft) high, in fact, the exact height of the stack would be determined during the design and permitting process and may be less than 35 m (115 ft). While a stack with a height of 35 m (115 ft) would be taller than existing facilities in Zone 4, it would not be the tallest structure at Pantex (as discussed in response FD334-3) or within the immediate viewshed of Pantex. There are many grain elevators in the area that are larger than the proposed stack in terms of width and depth and are as tall or taller in terms of height. Because the land around Pantex is largely agricultural, its value should not be impacted by the industrial nature of Pantex but by the perceived quality of the surrounding land in terms such as crop yield factors. As discussed in Section 3.4.10.1.1, because of the presence of the airport and other industry around Pantex, Amarillo's comprehensive land-use plan encourages compatible use rather than residential use for the area surrounding the plant so its impact on property values is limited.

STAND of Amarillo, Inc.

September 28, 1998

STAND COMMENT #10
Surplus Plutonium Disposition Draft Environmental Impact Statement (Draft SPDEIS)
Re: Plutonium Pit Composition and RCRA

Office of Fissile Materials Management
 U.S. Department of Energy
 1000 Independence Avenue, SW
 Washington, D.C. 20585

Dear Department of Energy, Office of Fissile Materials Management:

On page 2-10 of the Draft SPDEIS, DOE defined "clean metal" as "pure plutonium metal generally with less than 100 parts per million of any given impurity...The only major chemical impurities are gallium and radioactive decay products such as americium, neptunium, or uranium. Examples of pure metal items include.. finished machined weapon components." However, according to the ARIES Fact Sheet (See STAND Comment #2), up to 22 impurities in addition to gallium, americium, neptunium, and uranium may be found in plutonium pits:

Element	Maximum Concentration
Aluminum	not provided
Beryllium	3 parts per million (ppm)
Boron	50 ppm
Carbon	200 ppm
Cadmium	10 ppm
Calcium	500 ppm
Chromium	100 ppm
Copper	100 ppm
Erbium	not provided
Iron	< 400 ppm
Magnesium	500 ppm
Manganese	100 ppm
Lead	100 ppm
Nickel	< 400 ppm
Tin	100 ppm
Tantalum	100 ppm
Thorium	100 ppm
Titanium	100 ppm
Tungsten	200 ppm
Vanadium	not provided
Zinc	100 ppm
Tritium	10 mCi/kg

Page 1 of 2

FD335-1

Pit Disassembly and Conversion

None of the plutonium from the pits is considered impure metal. Any impurities that would prevent the plutonium dioxide from meeting MOX fuel specifications would be removed at the MOX facility. Section 2.4.1 was revised to acknowledge the presence of potential impurities in the pits to be dismantled.

1

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According to DOE's own information, several impurities may exist at levels above 100 parts per million in plutonium pits. Is there some pit plutonium that can be classified as "impure" metal? Why are these other materials not considered major impurities?

2

To what level do these impurities have to be removed during plutonium pit conversion? What differences exist between impurities reduction for MOX versus immobilization?

Several of these impurities are classified as hazardous metals under RCRA (Resource Conservation and Recovery Act). Will waste contaminated with hazardous metals be subject to RCRA regulations?

If not, how is DOE planing to process impure plutonium that contains hazardous metals such as lead, beryllium, cadmium, and chromium without having the resulting wastes be part of a mixed TRU waste or MLLW stream? For example, on Page H-38 of the Draft SPDEIS, DOE wrote that "lean-lined gloves are likely to be managed as mixed TRU waste." Yet, DOE does not identify the hazardous metals within plutonium pits at any point in the Draft SPDEIS as being part of the processing waste stream.

3

This is notable because on Page H-39 DOE does cite one impurity--tritium--as being part of the LLW stream. Yet, DOE does not provide information on how other pit impurities are categorized within the waste streams.

In the final SPDEIS, DOE must discuss and analyze the pit impurities in the waste stream.

Sincerely



Don Moniak
Program Director
STAND of Amarillo, Inc.

FD335

FD335-2

Pit Disassembly and Conversion

Gallium and other impurities would not have to be removed if the plutonium dioxide from the pit conversion facility were going to be used in the immobilization facility. For MOX fuel fabrication, the degree of removal of impurities would depend on the MOX fuel specification. The pit conversion facility is no longer being analyzed as a possible location for the plutonium-polishing process. DOE has included plutonium polishing as a component of the MOX facility to ensure adequate gallium and impurity removal from the plutonium dioxide. Section 2.4.3 and the hybrid alternatives analyses in Chapter 4 of Volume I were revised to include a discussion of plutonium polishing.

FD335-3

Waste Management

Any waste determined to be hazardous waste would be managed as required by RCRA and other applicable laws and regulations. The waste quantities presented in Appendix H and the Waste Management sections of Chapter 4 of Volume I include estimates of hazardous and mixed waste generation. The contaminants cited in the comment are present in the pit plutonium at only very low levels, and, with the exception of tritium, should largely remain entrained in the plutonium.

Appendix H was revised to discuss the inclusion of the impurities in the LLW and TRU waste streams. The beryllium would be present in large pieces and cuttings created when the pit was bisected. These cuttings would be too large to become airborne. There would be no grinding; thus, there would not be any pieces of beryllium small enough to become airborne. Because the pieces and cuttings would be contaminated with trace levels of radioactive materials, they would primarily be disposed of as TRU waste and is included in the waste projections in this SPD EIS. Section 2.4.1.1 was revised to discuss beryllium and its presence in the pit conversion facility.

STAND of Amarillo, Inc.

September 28, 1998

STAND COMMENT #11
Surplus Plutonium Disposition Draft Environmental Impact Statement (Draft SPDEIS)
Re: Scoping Comments

Office of Fissile Materials Management
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, D.C. 20585

Dear Department of Energy, Office of Fissile Materials Management:

According to the National Environmental Policy Act (NEPA), the "scoping" process for Environmental Impact Statements are intended for "identifying the significant issues related to a proposed action" (40CFR1501.7) in order to "determine the scope and the significant issues to be analyzed in depth in the environmental impact statement" (40CFR1501.7 (a)(2)).

During the scoping process for the SPDEIS, DOE received numerous comments but was very selective when incorporating these comments. Two examples illustrate DOE's tendency to incorporate comments from business interests within DOE's sphere of economic influence while ignoring comments from most stakeholder groups:

- The inclusion of the Fast Flux Test Facility as a "contingency" for burning MOX fuel;
- The inclusion of Pantex as a plutonium processor under all possible alternatives.

In June 1997 and August 1997, STAND of Amarillo submitted comments on the scope of the SPDEIS. STAND is resubmitting the majority of these comments (*original comments in italics*) as part of the public record for the Final SPDEIS and is requesting that DOE address and incorporate these comments into the Final SPDEIS.

1. During the scoping period, STAND wrote, in regard to the RAND report *The Waste Heat Implications of Alternative Methods for Disposing Surplus Weapons Plutonium: Direct Disposal vs. MOX Burning in LWR's*:

"This report is another indication of the serious flaws in past analyses concerning the MOX fuel option. This report must be fully considered and addressed within the EIS. DOE should identify all necessary changes to the Programmatic Environmental Impact Statement for the Storage and Disposition of Weapons-Usable Fissile Materials (S&D PEIS), or within the SPDEIS, that will be necessary as a result of this report."

DOE did not address these changes in the Draft SPDEIS. On pages 4-378 and 4-379, DOE reviewed its Generic Reactor analysis in the Final Storage and Disposition PEIS. The RAND report was not cited in this analysis. Because DOE did not provide a comparative analysis of the

FD336-1

General SPD EIS and NEPA Process

For this SPD EIS, scoping comments were invited from all interested individuals and organizations. Those comments that identified issues related to the proposed action and not already destined for inclusion in this EIS prompted appropriate changes to the document. Comments that had to be addressed in other venues, did not relate to the disposition of surplus plutonium, or represented statements of opinion were considered but did not affect the scope of this EIS. A discussion of those issues identified from written and oral comments received during the scoping period for this EIS is provided as Section 1.4. Individual responses to the commentor's resubmitted scoping comments are provided below.

FD336-2

General SPD EIS and NEPA Process

The RAND study cited by the commentor analyzed a repository design that is very different from the NWPA repository design being analyzed by DOE. Moreover, the information in the study does not directly pertain to the disposition of surplus plutonium, and thus, was not used in the preparation of this SPD EIS. DOE has prepared a separate EIS, *Draft Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada* (DOE/EIS-0250D, July 1999), which analyzes the environmental impacts from construction, operation and monitoring, related transportation, and eventual closure of a potential geologic repository.

The SPD Final EIS was not issued until the proposed reactors had been identified and the public had an opportunity to comment on the reactor-specific information. As part of the procurement process, bidders were asked to provide environmental information to support their proposals. This information was analyzed in an Environmental Critique prepared for the DOE source selection board prior to award of the MOX fuel fabrication and irradiation services contract. DOE then prepared an Environmental Synopsis on the basis of the Environmental Critique, which was released to the public as Appendix P of the *Supplement to the SPD Draft EIS* in April 1999. This *Supplement* included a description of the affected environment around the three proposed reactor sites, and analyses of the

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MOX vs. Immobilization end-product, the Draft SPDEIS violates the NEPA requirement (40CFR1502.14.(b)) to "devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative results."

2

II. STAND wrote, in regard to DOE's Program Acquisition Strategy For Obtaining Mixed Oxide Fuel Fabrication and Irradiation Services (PAS):

A. "The PAS appears to be entirely incompatible with the SPDEIS, and raises issues that are not within the scope of the PEIS, or should be within the scope of this EIS and not an Acquisition Strategy."

During the SPDEIS process, DOE moved from the PAS procurement stage to development and release of a Request for Proposals for MOX fuel Fabrication and Irradiation Services (MOX RFP). Before DOE even decides to pursue the MOX option, it intends to award a contract to one of three consortiums that recently submitted bids. These three consortiums now have a vested financial interest to insure that the MOX option will be pursued.

3

This is a clear violation of the NEPA requirement (40CFR1506.1.(b)) that agencies, "will not prejudice the ultimate decision of the program" with interim actions, as "interim action prejudices the ultimate decision on the program when it tends to determine subsequent development or limit alternatives." Proceeding with the MOX RFP has limited the full-immobilization alternative.

C. "The issues that DOE should address, as they pertain to the relationship of the SPDEIS and the PAS include:

What is the relationship of this PAS to the SPDEIS? DOE must clearly state how this PAS will impact the siting decision."

In reference to the MOX RFP, DOE stated in the Draft SPDEIS that, "environmental impact analysis relating to specific reactors will be included in the SPD Final EIS," although these analyses are scheduled to be made by MOX consortiums in their proposals. During the 1997 Scoping for the SPDEIS, DOE was repeatedly asked to involve nuclear reactor communities in the NEPA process. DOE ignored these scoping comments while moving forward on an exclusionary MOX procurement process designed to select MOX reactor sites.

4

DOE cannot justify soliciting public comment for the site selection process for plutonium processing facilities, while excluding public involvement in selecting plutonium irradiation facilities.

C. "Where will DOE analyze the environmental consequences and risks involved with the transportation and conversion of government furnished depleted uranium to uranium dioxide? The PAS identifies this action as a consortium responsibility, but provides no evident route for analyzing this action."

5

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potential environmental impacts of operating these reactors using MOX fuel (Sections 3.7 and 4.28 of this SPD EIS, respectively). During the 45-day period for public comment on the *Supplement*, DOE held a public hearing in Washington, D.C., on June 15, 1999, and invited comments. Responses to those comments are provided in Volume III, Chapter 4.

Section 2.18 provides a summary of impacts of the construction and normal operation of the proposed surplus plutonium disposition facilities that will allow reviewers to compare the various alternatives. Section 4.30 also includes a comparison of the incremental impacts, per metric ton of plutonium dioxide, of reappportioning materials from the MOX facility to the immobilization facility, including such factors as changes in the amount of waste generated and the associated human health risks.

FD336-3

MOX RFP

DOE's NEPA implementing regulations in 10 CFR 1021 contain a specific provision, Section 216, which allows contracts to be let contingent on completion of the NEPA process, in this case the SPD EIS ROD. This section requires DOE to phase contract work in a way that will allow the NEPA review process to be completed in advance of a go/no-go decision. In the case of this SPD EIS, the go/no-go decision will be determined by which alternative is selected by the decisionmaker. In accordance with 10 CFR 1021.216, DOE prepared and provided an Environmental Critique to the source selection team. The Environmental Critique evaluated impacts of the offer in the competitive range and was considered in awarding the contract. DOE also prepared a publicly available Environmental Synopsis on the basis of the Environmental Critique, as discussed in response FD336-2. As stipulated in DOE's phased contract with DCS, until and depending on the decisions regarding facility siting and approach to surplus plutonium disposition are made and announced in the SPD EIS ROD, no substantive design work or construction can be started by DCS on the MOX facility. Should DOE decide to pursue the No Action Alternative or the immobilization-only approach, the contract with DCS would end. The contract is phased so that only nonsite-specific base contract studies and plans can be completed before the ROD is issued, and options that would allow

construction and other work would be exercised by DOE if, and only if, the decision is made to pursue the MOX approach.

FD336-4

MOXRFP

The Program Acquisition Strategy, referred to by the commentor, has no relationship to the site selection process being followed in this SPD EIS. The selected team has agreed to work at any site chosen by DOE.

The remainder of this comment is addressed in that portion of response FD336-2 regarding opportunities for public comment on reactor-specific information.

FD336-5

Feedstock

The transportation requirements and risks associated with converting depleted uranium hexafluoride to uranium dioxide were included in the SPD Draft EIS and are included in this SPD EIS as shown in Tables L-2 through L-4. Section 4.30.3 was revised to include a discussion of the potential environmental impacts of uranium conversion. Environmental impacts of the conversion of depleted uranium hexafluoride to depleted uranium dioxide are based on impacts discussed in DOE's *Final Programmatic Environmental Impact Statement for Alternative Strategies for Long-Term Management and Use of Depleted Uranium Hexafluoride* (DOE/EIS-0269, April 1999).

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In the Draft SPDEIS, DOE analyzed transportation of depleted uranium, but not conversion of uranium hexafluoride to uranium oxide. In the Final SPDEIS DOE must provide information on this latter requirement, as well as a comparative analysis for the uranium conversion requirements for MOX versus immobilization.

5

D. "What are the effects of producing gallium free plutonium dioxide for MOX fuel fabrication, as stated on page A-7 of the PAS? Where will this action be analyzed?"

6

In the Draft SPDEIS, DOE only addressed gallium free plutonium dioxide in terms of the "plutonium polishing contingency." In the Final SPDEIS, DOE must provide a comparative analysis of the effects of producing gallium free plutonium dioxide for MOX.

III. During scoping, STAND requested that "DOE incorporate the following viewpoints into the SPDEIS:

7

A. "Both alternatives for disposition—MOX fuel fabrication and irradiation, and immobilization—involve technologies which have never been conducted on an industrial scale with weapons grade plutonium.

Both immobilization and MOX pose significant risks to public and environmental health. Both alternatives involve processing tons of plutonium, one of the most dangerous elements known, as well as an array of other toxic materials."

8

DOE neglected to address the past impacts of plutonium processing, and instead presented a Draft SPDEIS that identifies a set of goals rather than expected impacts, and which serves more as a project justification than an environmental impact statement.

B. "Both operations would add to the accumulation of transuranic waste for which DOE has no approved permanent disposal facility. The ones that are proposed are problematic and the SPDEIS should consider and analyze contingency plans for alternative storage and disposal sites, including the option of on-site storage and disposal."

9

No contingency to either WIPP or Yucca Mountain was identified in the Draft SPDEIS. In the final SPDEIS, DOE must identify and analyze on-site storage contingencies for dealing with the full range of expected TRU and High-Level Waste to be created by its proposed action.

IV. During scoping, STAND wrote:

"The SPDEIS is tied to the Storage and Disposition of Weapons-Usable Fissile Materials Final Programmatic Impact Statement (S&D PEIS). The S&D PEIS is a legally and scientifically insufficient document for the following reasons:

10

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FD336-6

Plutonium Polishing and Aqueous Processing

Appendix N of the SPD Draft EIS discusses the environmental impacts of adding a small plutonium-polishing process into either the pit conversion or MOX facility as a contingency. On the basis of public comments received on the SPD Draft EIS, and the analysis performed as part of the MOX procurement, DOE has included plutonium polishing as a component of the MOX facility to ensure adequate impurity removal (e.g., gallium) from the plutonium dioxide. Appendix N was deleted from the SPD Final EIS, and the impacts discussed therein were added to the impacts sections presented for the MOX facility in Chapter 4 of Volume I. Section 2.18.3 was also revised to include the impacts associated with plutonium polishing.

FD336-7

Alternatives

Although no domestic, commercial reactors are licensed to use plutonium-based fuel, several are designed to use MOX fuel, and others can easily accommodate a partial MOX core. The fabrication of MOX fuel and its use in commercial reactors have been accomplished in Western Europe. This experience would be used for disposition of the U.S. surplus plutonium. The environmental, safety, and health consequences of the MOX approach, as well as the production and disposal of any waste, are addressed in this SPD EIS. In addition, NRC would evaluate license applications and monitor the operations of both the MOX facility and the commercial reactors selected to use MOX fuel to ensure adequate margins of safety. While plutonium from warheads may never have been used in MOX fuel, its behavior in fuel is essentially the same as that of non-weapons-origin plutonium, and so does not present a situation different from MOX fuel experience to date. Although immobilization of weapons-usable surplus plutonium in a ceramic or glass form has not been demonstrated on an industrial scale, there exists a growing experience base and ongoing research and development activities related to the use of these technologies for immobilizing HLW. This experience is being adapted and applied to address the surplus plutonium disposition program.

FD336-8

General SPD EIS and NEPA Process

As noted in Section 1.1, this SPD EIS analyzes potential environmental consequences of alternative strategies for the disposition of a nominal 50 t (55 tons) of surplus weapons-grade plutonium. The overall goal as stated in Section 1.2 is to reduce the threat of nuclear weapons proliferation by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. Potential environmental impacts of the proposed actions are discussed at length in Chapter 4 of Volume I and summarized in Section 2.18. The past impacts of plutonium processing are not a result of the proposed action and are beyond the scope of this EIS.

FD336-9

Repositories

The management of TRU waste generated by the proposed surplus plutonium disposition facilities is evaluated in this SPD EIS. DOE alternatives for TRU waste management are evaluated in the *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste* (WM PEIS) (DOE/EIS-0200-F, May 1997) and the *WIPP Disposal Phase Final Supplemental EIS* (DOE/EIS-0026-S-2, September 1997). WIPP began receiving shipments of TRU waste for permanent disposal on March 26, 1999. As described in Appendix F.8.1, and the Waste Management sections of Chapter 4 of Volume I, it is conservatively assumed that TRU waste would be stored at the candidate sites until 2016, at which time it would be shipped to WIPP in accordance with DOE's plans. Expected TRU waste generated by the proposed facilities is included in the *WIPP Disposal Phase Final Supplemental EIS* cumulative impacts estimates, as well as in *The National TRU Waste Management Plan* (DOE/NTF-96-1204, December 1997).

This SPD EIS, for the purposes of analysis, assumes that Yucca Mountain, Nevada, would be the final disposal site for all immobilized plutonium and MOX spent fuel. As discussed in response FD336-2, DOE is preparing a separate EIS. The MOX spent fuel is included in the Yucca Mountain inventory and is being analyzed in that EIS.

As described in Sections 2.18.3 and 4.28.2.8, additional spent fuel would be produced by using MOX fuel instead of LEU fuel in domestic, commercial reactors. Spent fuel management at the proposed reactor sites is not expected to change dramatically due to the substitution of MOX assemblies for some of the LEU assemblies. Likewise, the additional spent fuel would be a very small fraction of the total that would be managed at the potential geologic repository.

The WM PEIS includes an analysis of the impacts of the long-term storage of 21,600 canisters of vitrified HLW at Hanford and the storage of 4,912 canisters at SRS. The WM PEIS included as part of its cumulative impacts an estimate of HLW generated by the proposed surplus plutonium disposition facilities. As described in Section 2.4.4.2 of this SPD EIS, the surplus plutonium disposition program could result in the generation of up to 395 additional HLW canisters of immobilized plutonium at Hanford or SRS.

FD336-10

General SPD EIS and NEPA Process

DOE does not agree that the *Storage and Disposition PEIS* is a fundamentally flawed document. This SPD EIS references and is tiered from the *Storage and Disposition PEIS* in accordance with applicable provisions of 40 CFR 1502.20.

DOE determined that aqueous processing was not a reasonable alternative for pit conversion under the terms of NEPA because current aqueous processes using existing facilities would produce significant amounts of waste, and aqueous processing would complicate international safeguard regimes. Dry processing was analyzed in the *Storage and Disposition PEIS* and this SPD EIS.

DOE is not including the plutonium-polishing process (a small-scale aqueous process) as part of the pit conversion facility; that process would be part of the MOX facility. DOE would use only dry processes in the pit conversion facility. Section 2.4.3 was revised to include a description of the plutonium-polishing process that would be used in the MOX facility. For this reason, the thermal process for removing gallium may not be needed in the pit

conversion facility (see revised Section 2.4.1.2). Plutonium dioxide is the starting form for the disposition of surplus plutonium for either the immobilization or MOX approach. This EIS analyzes the environmental impacts of converting surplus pits into plutonium dioxide that can be used in either the immobilization or MOX facility. No additional aqueous processing would be necessary to prepare the plutonium dioxide for immobilization.

Section 3.1 defines the ROI for human health risks to the general public from exposure to airborne contaminant emissions as an area within an 80-km (50-mi) radius of the proposed surplus plutonium disposition facilities. The analyses in Appendix J consider the potential contamination of agricultural products, livestock, and fish, and consumption of these products by persons living within an 80-km (50-mi) radius of the candidate sites. The analyses of doses consider bioaccumulation of radioactivity in grain crops, forage, and animals (and the resultant effects on ingestion doses to humans), and all potential dose pathways including direct ingestion, inhalation, external ground exposure, and plume immersion. These analyses indicate that the potential impacts of operating the pit conversion, immobilization, and MOX facilities on agricultural products, livestock, and human health at any of the sites would likely be minor. Section 4.26 and Appendix J were revised to discuss potential impacts of radioactive emissions on agriculture and the Columbia River.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS and Washington, D.C.

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- *A lack of reasonable alternatives for plutonium pit disassembly/conversion activities;*
- *A lack of a credible cumulative impacts assessment due to the lack of analyses on reasonable, though undesirable, aqueous processes for pit conversion and MOX fuel fabrication;*
- *Failure to incorporate known information prior into the process, such as gallium reduction;*
- *Failure to analyze and report the impacts from proposed activities on the regional economic activities such as Texas Panhandle agriculture and Columbia River fisheries;*
- *Failure to report the full cost of the MOX option."*

10

In the Draft SPDEIS, DOE failed to address these Storage and Disposition PEIS limitations. How can DOE tier the SPDEIS to a fundamentally flawed document?

V. STAND wrote in its scoping comments, in regard to general NEPA requirements:

"The Department of Energy is obligated under NEPA to, "use all practical means, consistent with other essential considerations of national policy" to protect the environment for future generations, assure for all Americans safe, healthful, productive surroundings, preserve our natural heritage, and enhance the quality of renewable resources.

To do this, NEPA requires that DOE identify and analyze "presently unquantified environmental amenities and values" to provide "appropriate consideration in decision making along with economic and technical considerations." The amenities and values that should be identified and analyzed in this EIS, and for which there was an inadequate analysis in the S&D PEIS, include clean water, soil, and air and the productive farmlands and fisheries a high quality environment supports.

11

DOE should view its mandate, under NEPA, to assess the relationship between the proposed activities and "the maintenance and long term enhancement of long term productivity in terms of existing economic activities such as agriculture and fisheries. In the PEIS, many commenters wrote that the analysis on the Texas Panhandle Agricultural economy was deeply flawed. STAND agrees with this assessment and requests DOE to analyze impacts of proposed activities on all affected natural resource related economies.

NEPA also requires DOE to assess the environmental impact and adverse environmental effects of its proposed activities on identified amenities and values. In the PEIS, DOE took the approach of analyzing the impacts of proposed activities during normal operations while only assessing the probability of accidents occurring. This strategy is insufficient. STAND is

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FD336-11

Facility Accidents

The potential agriculture impacts of the proposed surplus plutonium disposition facilities are described in the Geology and Soils portions of Section 4.26. In the Water Resources portions of Section 4.26, the impacts on surface water (including fisheries) and groundwater have also been described. All activities would be limited to each of the candidate sites, and any impacts to the surrounding areas would be within Federal, State, and local regulatory limits.

As shown in the Facility Accidents sections of Chapter 4 of Volume I and in Appendix K, DOE addresses the environmental and human health consequences of the full range of accidents scenarios for all the alternatives. Similarly, the Transportation sections of Chapter 4, and Appendix L discuss the consequences of transportation accidents.

Because of the very low probability of accidents of the magnitude needed to impact natural-resource-related economies, the consequences would be difficult to calculate with any reasonable degree of accuracy. In the unlikely event of an accident, crops may be contaminated which could affect an agricultural based economy. DOE would thoroughly investigate potentially affected areas and determine the need for interdiction or other specific actions.

The remainder of the comment is addressed in response FD336-10.

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requesting that DOE conduct an analysis of the environmental and human health consequences of the full range of accident scenarios. Only by doing this can people make informed choices and decisions."

11

In the Draft SPDEIS, DOE did not address these issues. In the Final SPDEIS, DOE must address probable impacts on natural resource economies.

VI. During the scoping period, STAND wrote, in regard to expected contamination:

"Plutonium processing facilities will result in environmental contamination. The issue is not whether this contamination will be above or below regulatory limits, because regulatory limits can change over time. The unaddressed question to-date is what amounts of contamination and waste will be generated for all reasonable alternatives. Until now, DOE has provided only a rough sketch of the outputs of its proposed plutonium operations. In addition, DOE has raised concerns for Russian MOX operations that it has not reported or not analyzed here.

For example, the Joint United States/Russia Plutonium Disposition Study released in September, 1996, included the following Russian Environmental, Safety, and Health issues:

12

'The following issues should be included in the program of follow-up studies of MOX fuel production and use:

- 1. Analysis of data on possible concentrations of plutonium and americium in aerosol discharges in the production of MOX fuels, including aerosol dispersion under regular operating conditions and in potential accidents.'*

Where is this analysis for U.S. MOX production? DOE is obligated to assess impacts in this country which it has helped to identify in Russia."

DOE should address the americium and plutonium aerosol issues in the final SPDEIS. DOE should also identify the expected level of contamination resulting from the proposed action.

VII. During the scoping period, STAND wrote, in regard to air emissions, wastewater discharges, and waste streams:

A. "To assess environmental impacts, DOE should provide a clear and comprehensive accounting of the various waste streams and contamination generated by all proposed disposition activities by addressing the following issues and questions:

13

- 1. Standards and guidelines for pollution levels must be quantified clearly and up-front. DOE should explain what existing regulations exist and how they might vary from state to state. Furthermore, the S&D PEIS analyses of contaminant levels are filled with vague*

FD336

FD336-12

Human Health Risk

Chapter 4 of Volume I presents the results of the radiological health impacts associated with operational emissions of radionuclides, including plutonium and americium, for each alternative. Radiological release quantities expected from each of the proposed surplus plutonium disposition facilities, including the MOX facility, are presented in Appendix J for normal releases and Appendix K for postulated accidents. All applicable contaminant streams are addressed in the radiological impact analyses.

The accident analysis in this SPD EIS is considered to be bounding and includes the effects of aerosol dispersion under a representative spectrum of possible operational accidents. Inhalation is the most significant dose pathway. Other pathways (ingestion) are controllable through interdiction. No major chemical accidents were identified. As discussed in Appendix K.1.1, additional documentation on hazards and accidents would be developed for each facility during the design and construction process.

The amounts and composition of waste generated for each alternative are quantified in the Waste Management sections in Chapter 4 of Volume I and Appendix H. Generation rates of TRU, low-level, mixed low-level, hazardous, and nonhazardous waste are also provided.

FD336-13

General SPD EIS and NEPA Process

DOE assessed the environmental impacts of air emissions, wastewater discharges, and waste streams for this SPD EIS in accordance with well-recognized and accepted procedures. The waste streams generated by the implementation of each alternative are described in the Waste Management sections in Chapter 4 of Volume I and Appendix H. Detailed information is provided in the form of tables and charts, and to the extent possible—the proposed action being of a highly technical nature—the text is presented in “common English.” Chapter 5 includes a description of existing regulations and a list of State regulations for the candidate sites. Furthermore, the document is organized in accordance with 40 CFR 1502.10, and reader aids such as a glossary, a list of acronyms, and conversion charts are provided. Also available to the public are those data reports used as source material for the calculation of potential environmental impacts.

FD336-16

Human Health Risk

The discussion of hazardous chemical impacts in Appendix F.10.2.1 was revised to include more information on the types of health effects that could result from exposures to hazardous chemicals and to provide more details on the methodology used to calculate these effects, both carcinogenic and noncarcinogenic. Appendix F.1.2.1 was also revised to include a discussion on how the most stringent standard or guideline relates to human health. The expanded discussions clarify the meaning and significance of the potential impacts associated with exposure to airborne releases, including hazardous air pollutants and criteria air pollutants, that are presented in the Human Health Risk and Air Quality and Noise sections in Chapter 4 of Volume I.

FD336-17

Waste Management

As discussed in response FD336-9, WIPP is open and can accommodate the amount of TRU waste expected from the proposed surplus plutonium disposition facilities. Further, the response discusses Yucca Mountain and its ability to accept MOX spent fuel. Response FD336-2 discusses the RAND report.

As described in Appendix H, operation of the pit conversion, immobilization, and MOX facilities would be expected to generate LLW that includes used equipment, wipes, protective clothing, and solidified inorganic solutions. LLW would be contaminated with TRU isotopes (primarily plutonium) at concentrations lower than 100 nCi and would generally not contain appreciable contamination by other isotopes. An exception is that operation of the pit conversion facility would generate LLW that includes tritium. As described in Appendix F.8, by definition TRU waste contains more than 100 nCi of alpha-emitting transuranic isotopes, with half-lives greater than 20 years, per gram of waste. Transuranic isotopes include isotopes of plutonium. Mixed TRU waste is TRU waste that contains hazardous components regulated under RCRA. LLW can contain transuranic isotopes in concentrations of no more than 100 nCi of waste. Mixed LLW is LLW that contains hazardous components regulated under RCRA. As described in the introduction to Appendix H, only a very small portion of the TRU waste would leave the

proposed surplus plutonium disposition facilities as a liquid. Most of the TRU waste generated by the proposed facilities would be solid wastes (wipes, used containers and packaging materials, and lead-lined rubber gloves), with surfaces contaminated by plutonium dioxide. All TRU waste would be appropriately placed in containers before leaving the proposed facilities. Therefore, it is unlikely that TRU waste would be released to the environment.

Plutonium is extremely immobile in the environment. Plutonium in soils is associated with organics, sesquioxides (soil coatings), clay particles, carbonates, and silicates. Studies have shown that most plutonium deposited on the ground remains in the upper soil horizons. Therefore, contamination of underground sources of water by deposition of plutonium on the soil is unlikely. The potential for plutonium contamination of the Ogallala aquifer was examined in the *Environmental Assessment for Interim Storage of Plutonium at Pantex* (DOE/EA-0812, January 1994). That document shows that no accident or routine operating condition that could result in a plutonium release could be identified with a probability greater than $1.0 \times 10^{-6}/\text{yr}$ of having an impact on the aquifer. Actual mobility depends on the form of the plutonium released (including chemical compound and valence state) and the conditions of the environment into which the plutonium is released (e.g., Eh and pH, and the presence of materials to which the plutonium may attach).

DOE is establishing an internet database pursuant to the terms of a lawsuit settlement (*Natural Resources Defense Council et al. v. Bill Richardson, Secretary of Energy, et al.*, Civ. No. 97-936(ss)). The database will include information on waste at each site by program office; specific information on volume and mass of radioactive materials, chemical constituents, radioactivity of materials, and disposition plans will be provided. DOE expects that this database will be operational in January 2000 and will be maintained for 5 years.

Most facility accidents would not involve the release of significant quantities of materials from the facility, and therefore, would not produce contamination outside the building. Likewise, most transportation accidents would not result in releases of radioactive materials to the environment. Due

to the immense variability of the accident scenarios, and the difficulty in estimating the amount of material that would be contaminated with radioactive and hazardous constituents, waste streams could not be reasonably estimated for the accident scenarios. If an accidental release occurred, the source of the release would be promptly contained and any significant contamination remediated. Incident response and contaminant remediation would be performed in accordance with all applicable regulations, as well as spill prevention and emergency response plans.

DOE does not decide which wastes are nonhazardous and which are hazardous. The allowable amounts of contaminants that may be present in nonhazardous waste are determined by Federal and State regulations. For example, as described in the regulations implementing RCRA, wastes are determined to be hazardous if they exhibit the characteristics of ignitability, corrosivity, reactivity or toxicity as defined in the regulations, or are otherwise determined to pose a hazard.

Although it is inevitable that regulations may change over time, issues such as how the regulatory environment will evolve are speculative and therefore are beyond the scope of this SPD EIS. If regulatory requirements relevant to the surplus plutonium disposition program change, however, DOE, will comply with those new requirements.

Earlier consideration regarding a possible HLW repository in Deaf Smith County, Texas, is unrelated to the proposed action. In December 1987, the NWPA was amended by the U.S. Congress to direct DOE to suspend characterization work at all sites except the Yucca Mountain Site in Nevada.

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sufficient space there for the new quantities of TRU waste? If not, what will be the interim and permanent fate of new TRU wastes?

Likewise, will Yucca Mountain, if it opens, have sufficient space for MOX spent fuel assemblies? Is Yucca Mountain a suitable site considering the findings in the RAND report?

What will the composition of low level waste be for each facility, based on existing experience?

What will be the concentration of transuranic elements in low level, TRU waste, and mixed low level and TRU wastes?

Of the chemicals in the mixed TRU wastes, what will be the effect of these chemicals in terms of the mobility of transuranics in the soil? What will be the chemical composition of mixed TRU waste and how will this effect Pu transport if it contaminates soil and water?

What will the projected waste stream be for various accident scenarios?

For nonhazardous wastes, what are the allowable tolerance for contaminants?

Will regulations change over time, much as they are being proposed for Yucca Mtn., and just as DOE changed the definition of TRU waste in 1984?

What is the possibility, especially if plutonium processing facilities are located at Pantex, of DOE revisiting the proposal for a high level (or other nuclear waste) waste repository in Deaf Smith County, Texas?"

DOE should address these unanswered questions in the final SPDEIS.

VIII. During the scoping period, STAND wrote, in regard to accident scenarios:

A. *"In the S&D FEIS, DOE analyzed a limited set of accident scenarios, reported them in a reader unfriendly format, and only reported cancer risks. Although the environmental and human health risks were different at each site, DOE failed to summarize the comparative risks across sites. For the SPDEIS to be credible, DOE must make great improvements to its assessments of accident scenarios. Even European MOX fuel fabricators assess a greater spectrum of accident scenarios and health risks than DOE has to date. These include breach and/or crash of a glove box, onsite floods, and estimated dose to public for various accident scenarios.*

DOE should have sufficient data based on past accidents at Rocky Flats, Hanford, Savannah River Site, Pantex, and INEEL to estimate the expected range of contamination possible under various accident scenarios. DOE should then estimate the comparative doses and the possible health and environmental consequences for each site, and compare the sites in a

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FD336-18

Facility Accidents

This SPD EIS presents accident results in terms of point estimates for consequence and qualitative frequency ranges for frequency consistent with the guidance in *Recommendations for the Preparations of Environmental Assessments and Environmental Impact Statement* (DOE Office of NEPA Oversight, May 1993). In general, the postulated beyond-design-basis accidents are significantly more severe than any accident that has occurred within the experience base of DOE.

This EIS provides several levels of detail in order to be useful to a variety of interested parties. Section 2.18 summarizes the limiting design basis accident for each candidate site by alternative. In addition, each alternative analyzed in Chapter 4 of Volume I provides a discussion of the limiting beyond-design basis accident. More detailed accident result information is provided in Chapter 4. Although the format of the accident tables is the same among alternatives, there is no explicit redundancy in the information contained in the tables. Appendix K presents a greater depth of detail, including additional accident result tables for average meteorology (as opposed to conservative meteorology, which was used for the formal results in Chapter 4).

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clear and concise format. DOE cannot simply present a series of cumbersome tables filled with exponential notation and leave the comparative risk analyses to the public."

In the Draft SPDEIS, DOE provided dozens of redundant tables filled with exponential notation and left the comparative risk analyses to the public. The final SPDEIS could be greatly reduced in size by removing redundant analyses and providing comparative analyses in an up-front and reader friendly format.

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B. "DOE should also expand or adjust its analyses to include:

Incorporating an analysis of human error using past DOE records relevant to the proposed operations. DOE should provide a list of past accidents, their effects and consequences, and the stated probability at the time of the accident. For example, the recent plutonium inhalation at Los Alamos by a LANL researcher occurred due to procedural violations. What was the risk of this researcher inhaling plutonium under the existing risk analysis? What was the probability of procedures being violated, based upon past experience?"

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DOE not address the anticipated accidents at each facility and the resulting cumulative impacts of long-lived radioactive contamination. DOE only identified "bounding" impacts and therefore understated the daily operational impacts. DOE should address these issues in the final SPDEIS.

C. "Identifying the economic enterprises at risk from an accident, including agriculture, fisheries, and food processing facilities."

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DOE must identify what economic enterprises are at risk in the final SPDEIS.

D. "Not assuming a logical chain of events during accident modeling. DOE should model accident scenarios without unrealistic assumptions such as fire water and truck hose down water being collected, monitored, sampled, and treated as process wastewater; or hundreds of square miles of land being decontaminated to background levels. What are the chances, based on DOE's real life emergency response data of accident response and mitigation measures failing?"

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In the Draft SPDEIS, DOE continued to assume accident responses would be orderly and logical. DOE should compare the accident response procedure at the Hanford Plutonium Finishing Plant to the accident response reality during the 1997 explosion. In the final SPDEIS, DOE should address the impacts of inadequate accident responses to anticipated and probable accidents.

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FD336-19

Facility Accidents

Potential accidents with a range of frequencies and consequences were addressed in this SPD EIS in accordance with DOE's NEPA guidance. Many of the accidents in Appendix K reflect potential human error and procedural violations. The accident history sections in Chapter 3 of Volume I summarize the existing data on incidents at the candidate sites.

In response to the commentor's concern, a search of the DOE occurrence reporting database for 1997 and 1998 was performed, which yielded 13 occurrences at LANL categorized under the heading "radiological issues." Of these 13 occurrences, three resulted in dose estimates ranging from 0.007 to 1.2 rem CEDE, the remainder were below measurable levels based on nasal smears. This two-year history is more recent than the five-year history summarized in Table 3-62, which documents radiation doses to onsite workers at LANL for the calendar years 1991-1995. The two-year data summarized above falls within the dose range of Table 3-62, substantiating its validity in characterizing anticipated exposures in general.

The impacts from daily surplus plutonium disposition operations are considered in the Human Health Risk sections in Chapter 4 of Volume I. Because nonradiological consequences dominate accident risks for high frequency accidents, worker accident risk from nonradiological sources was estimated using existing DOE injury and fatality rates and summarized for each alternative in the Facility Accidents sections of Chapter 4. It is not reasonable to postulate the chronic occurrence of accidents exceeding permissible release limits that might result in significant cumulative impacts from long-lived radioactive contamination. This is because regulatory action by DOE, EPA, and/or NRC would be taken in response to any such accident.

FD336-20

Socioeconomics

This comment is addressed in response FD336-11.

FD336-21

Facility Accidents

As discussed in Appendix K.1.4.1, consequences were developed using conservative assumptions and methods without regard for or without taking credit for adequate emergency response.

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IX. During the scoping period, STAND wrote, in regard to the value of clean water:

"DOE's analyses in the S&D PEIS tended to distort the cumulative effects of its proposals by using inadequate comparative baselines. For example, comparing groundwater use to existing unsustainable levels of use is misleading. If water usage is already at unsustainable levels, or if water contamination is already exists, these facts must be stated up-front. The questions is not how much usage or contamination will increase during DOE activities, but whether additional use, or contamination, is desirable.

Every site under consideration for new plutonium operations is located on or near critical water sources which support fisheries and/or agriculture, and provide critical drinking water sources. All of these water sources have been degraded or placed at serious risk by past and present DOE activities as well as commercial industrial activities. DOE should identify the existing state of the water resources it is proposing to impact."

In the Draft SPDEIS, DOE glossed over existing conditions of water resources.

B. "The issues and questions that must be addressed by DOE in the SPDEIS include:

What is the distance to groundwater, surface water, aquifers, and drinking water sources for the proposed facilities?

What is the cost of contaminating a safe drinking water supply, irrigation supplies, or a fishery?

One consistent theme in the S&D PEIS is that plant blowdown, firefighting water, steam condensate and other sources of wastewater will "be monitored for radioactivity, and if uncontaminated, discharged" to local sources. DOE must address the extent to which contaminated water can escape detection, the possibility of monitoring systems breaking down during emergency situations, and the consequences of such an event.

In the S&D PEIS, "drawdown representing 2.9% of the available groundwater is reported for a MOX fuel plant's impacts on the Ogallala aquifer. Who is this groundwater available to? Does this assertion incorporate the possibility of Amarillo well fields drawing down faster? Is this acceptable in light of the fact that Amarillo well field is already so depleted?"

In the S&D PEIS, a proposal to use Amarillo wastewater was reported. What is the state of this proposal? Where is the documentation for this proposal?"

DOE should address these questions in the Final SPDEIS.

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FD336-22

Water Resources

DOE acknowledges the commentor's concerns regarding the potential for impacts to water resources at Pantex. Section 3.4.7.2 describes potential and past DOE water use, use by the city of Amarillo, and irrigation use in Carson County. Operation of the pit conversion and MOX facilities is estimated to increase water use by 116 million l/yr (30.6 million gal/yr). This water use would still be a small portion of the water used by the city of Amarillo (0.5 percent) and that used by irrigation in Carson County, and would be less than the water used by Pantex in 1991. Although additional water use at Pantex may produce some localized drawdown of the aquifer near Pantex supply wells, this water use would not impact the overall conditions in the Ogallala aquifer. DOE is not proposing to use water from the Hollywood Road Wastewater Treatment Plant at this time; however, this measure is a viable option and could be used to mitigate impacts of additional water usage in the future.

Analyses presented in Section 4.26.3.2 indicate that there would be no discernible impacts to surface water or groundwater quality at Pantex from normal operation of the proposed surplus plutonium disposition facilities. There would be no discernible contamination of aquatic biota (fish) or drinking water, either from the deposition of minute quantities of airborne contaminants into small water bodies or from potential wastewater releases. Therefore, it is estimated that no measurable component of the public dose would be attributable to liquid pathways. It is not possible to estimate the cost of cleanup associated with contamination of drinking water supplies, irrigation supplies, or fisheries.

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X. During the scoping period, STAND wrote, concerning the value of clean air:

"The same issues that apply to water also apply to air quality. DOE should not assume that impacts to air quality are occurring to undisturbed watersheds. DOE should identify the existing state of the water resources it is proposing to impact.

Additional issues and questions that must be addressed by DOE in this EIS include:

Wording found in the PEIS such as activities will "not typically" exceed regulations or guidelines is unacceptable. DOE should qualify vague language with clear quantitative estimates. For example, on Page 4-680 of the PEIS, DOE wrote, "VOC emissions of 1,000 kg/yr ...would give trace contamination at the site boundaries." Statements like these are unacceptable and should be qualified with questions such as: What is a trace of contamination?

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What are the volatile organic compounds and other toxins that are expected to be produced at various facilities? What are the existing regulatory levels for each contaminant that would be produced, and what are the known health effects of overexposure?"

DOE should address these questions in the final SPDEIS.

XI. During the scoping period STAND wrote, in regard to a MOX fuel fabrication facility:

"STAND is requesting that DOE completely re-analyze the impacts of building and operating a MOX Fuel Fabrication facility in the SPDEIS.

The reason for this is simple. In December, 1996, the Department of Energy published the Feasibility Assessment of Candidate DOE Sites and Buildings for a Mixed Oxide (MOX) Fuel Fabrication Facility for Disposal of Excess Weapons-Usable Plutonium. There are serious discrepancies between the findings and recommendations in this document and what was reported in the S&D PEIS.

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For example, DOE has admitted that the purpose of the assessment was to "review the suitability of sites and existing buildings being considered to host the fabrication facility." Oak Ridge and the Nevada Test Site were not reviewed in the assessment because "the DOE has chosen not to introduce the MOX fabrication facility to a site without recent capability to handle or process Category I quantities of plutonium." In the S&D PEIS, NTS and ORR were eliminated because "DOE would not add Pu to sites that do not currently have Pu in storage." So on the one hand, handling and processing were the criteria, and on the other storage was the criteria. Yet, Rocky Flats, where Pu is stored, was not considered for disposition because it is undergoing closure. Why did the DOE report different screening criteria in these two documents? How did this effect the decision to settle on the four final candidate sites?

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FD336-23

Air Quality and Noise

The text referred to by the commentor was from the *Storage and Disposition PEIS*. This SPD EIS has attempted to clarify the air quality concerns associated with operating the proposed surplus plutonium disposition facilities. The air quality impacts associated with construction and operation emissions of air pollutants have been quantified for each alternative in Chapter 4 of Volume I (e.g., see Table 4-52). As shown in these tables, the amount of air pollution associated with the operations of the proposed facilities is generally small when compared to the existing site concentrations, and applicable standards or guidelines. A detailed discussion of how these impacts were calculated is included in Appendix G for each of the proposed surplus plutonium facilities at the candidate sites. Air pollutant emission rates are given for each proposed facility in kilograms per year, and rates are compared with the appropriate air quality standards and guidelines.

FD336-24

MOX Approach

DOE understands there could be confusion regarding various documents that address related topics. In the *Storage and Disposition PEIS*, the proposed action for plutonium disposition was to select a disposition strategy. Therefore, the decisions made were of a programmatic nature, taking into consideration the major programmatic activities at various candidate sites. Once the decision was made in the *Storage and Disposition PEIS* ROD to proceed with the hybrid and immobilization-only approaches to surplus plutonium disposition and focus on the selected candidate sites, the next step was to determine the specific DOE site(s) for constructing and operating the proposed facilities and the disposition approach and technologies. Because the decisions for this SPD EIS are site and facility specific, the decision criteria are based on the candidate site's ability to handle up to 50 t (55 tons) of surplus plutonium using the selected disposition approaches, as well as its ability to house the needed facilities.

As discussed in the *Pit Disassembly and Conversion Demonstration EA* (DOE/EA-1207, August 1998), several national laboratories, including ANL-W, LLNL, LANL, and ORNL, have ongoing R&D projects related to the surplus plutonium disposition program that involve the use of small

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In the Draft SPDEIS, DOE did not address the changes that had occurred since issuance of the S&D PEIS. Since the ROD for the PEIS was issued, DOE has proceeded with MOX research and development that is centered at Oak Ridge and Los Alamos. Oak Ridge is handling and processing small amounts of plutonium in the R&D program. This contradicts the criteria for removing Oak Ridge as a plutonium processing candidate.

At Los Alamos, DOE is proceeding to upgrade plutonium storage facilities, yet these upgrades are never addressed in the Draft SPDEIS. Los Alamos personnel also stated, at the MOX Industry Conference in Atlanta, that the LANL MOX program has been approved by lab officials for an indefinite period. What capabilities are being developed at LANL that DOE did not report in the Draft SPDEIS?

Serious discrepancies between programmatic realities and the Draft SPDEIS and related documents continue to undermine the integrity of DOE's NEPA process. These discrepancies should be addressed in the Final SPDEIS.

B. "In part two of the assessment, three unique attributes to Weapons grade plutonium were identified that were not reported or analyzed in the S&D PEIS:

1. The different isotopic ratio—lower ratio of Pu-240—in weapons grade plutonium compared to weapons usable, reactor grade plutonium creates more stringent criticality limits with subsequent negative impacts on the economics and risks of the MOX option. In DOE's reevaluation of the MOX option, it must answer the following questions, as they pertain to the Plutonium isotopic ratio issue:

- a. What additional costs are incurred during MOX fuel fabrication that have not been reported?
- b. What additional criticality risks are incurred during MOX fuel fabrication that have not been reported?
- c. What additional consequences are possible in the event of a plutonium release?

2. Gallium concentrations will have to be below 100 parts per million for the plutonium oxide feed. DOE has not explained in a decision document why gallium reduction must occur and the processes required to reduce it. The questions DOE must answer as they pertain to gallium (and other impurities) are:

- a. What additional costs are incurred to prepare plutonium oxide for the MOX fuel feed that is not found in the immobilization option and which has not been reported?
- b. What additional risks to workers and the environment are created with gallium reduction processes?

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quantities of plutonium. ANL-W, LANL, LLNL, as well as Hanford and SRS, are candidates for lead assembly activities in the SPD EIS because they have existing capabilities and facilities that could support these activities. ANL-W and ORNL are candidates for postirradiation examination in the SPD EIS because they have existing capabilities and facilities that could support these activities.

The LANL storage facilities mentioned by the commentor are covered under the *Site-Wide Environmental Impact Statement on the Continued Operation of the Los Alamos National Laboratory* (DOE/EIS-0238, January 1999) and are not part of the surplus plutonium disposition program. All of the MOX fuel activities being pursued at LANL were discussed in the *Pit Disassembly and Conversion Demonstration EA*. The interrelationships of the referenced documents are described in Section 1.8 of this SPD EIS.

FD336-25

MOX Approach

Reactor-grade and weapons-grade plutonium are chemically indistinguishable. The difference is isotopic: there is less plutonium 239 (and therefore more plutonium 240) in reactor-grade plutonium than in plutonium that was produced for use in weapons. However, since plutonium 240 is not fissile, it is the amount of plutonium 239 that dominates criticality concerns. This SPD EIS analyzes the potential impacts of the proposed actions. Therefore, analyses of criticality risks during MOX fuel fabrication, as well as all other SPD EIS analyses, reflect the isotopic content, plutonium concentrations, physical attributes, and other parameters specific to the materials, facilities, and sites under consideration. The reactor-specific analyses in the revised Section 4.28 for both routine operation and postulated accidents use source terms that reflect the proposed MOX fuel component of the reactor cores.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. Response FD336-10 discusses the separate cost reports associated with this EIS.

FD336-26 Plutonium Polishing and Aqueous Processing

The degree of removal of impurities would depend on the MOX fuel specification. Gallium and tramp impurities would not have to be removed if the plutonium dioxide from the pit conversion facility were going to be used in the immobilization facility. DOE has included plutonium polishing as a component of the MOX facility to ensure adequate gallium and impurity removal from the plutonium dioxide. Section 2.4.3 and the hybrid alternatives analyses in Chapter 4 of Volume I were revised to include a discussion of plutonium polishing.

Response FD336-10 discusses the separate cost reports associated with this EIS. The additional risks associated with plutonium polishing in the MOX facility were added to the Human Health Risk and Facility Accidents sections of Chapter 4 (e.g., see Sections 4.3.2.4 and 4.3.2.5). Gallium presence in appreciable concentrations is a concern both in the fabrication of MOX fuel through possible interference of the sintering process of uranium and plutonium oxides, and in fuel performance by increasing the potential for corrosion and embrittlement of the fuel cladding.

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c. *What are the consequences of higher levels of gallium in the MOX fuel during reactor operation?*

3. *The facility is "not planned for high degrees of automation." This raises the critical issues of heightened worker exposure to americium and fine-grained plutonium oxide dust. DOE must answer the following questions within the scope of the SPDEIS:*

a. *What is the difference in costs between a state of the art highly automated MOX facility that protects worker health and safety and a labor intensive MOX facility that places workers at higher risks?*

b. *Why is the DOE proposing, in the feasibility assessment, a facility without high degrees of automation? What is DOE proposing in the SPDEIS?*

c. *What are the differences in risks to workers in the MOX facility at varying levels of automation? DOE must clearly explain the differences in radiation exposures at each work station, the number of work stations required, and the number of work stations that handle the plutonium oxide and depleted uranium oxide powders."*

In the Final SPDEIS, DOE should address these questions.

C. *"The role of the NRC has been difficult to ascertain. Part two of the feasibility assessment states that the MOX facility will be licensed by the U.S. Nuclear Regulatory Commission. Why did DOE fail to involve the NRC in this assessment and involve the agency in the decision process at the earliest possible opportunity? Why were representatives from European private and state owned corporations involved with this process while the legally responsible U.S. Agency was excluded?"*

Under NEPA, DOE is required to consult with and obtain the comments of "any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved." No comments by the NRC are published in Volume 4 of the S & D PEIS. This is an obvious NEPA violation because the NRC has special expertise. DOE admitted during the PEIS process that NRC will be a licensing agency, and nuclear reactors regulated by NRC will burn the MOX fuel. In the NOI, the role of the NRC remains unidentified. Since the NRC will be responsible for regulating both a MOX fuel fabrication facility and MOX fuel irradiation, why is the critical role of NRC left undefined?"

DOE addressed the role of the NRC in the Draft SPDEIS. The NRC has provided substantial comments during meetings with DOE OFMD officials in the past year. These comments should be referenced in the Final SPDEIS.

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FD336-27

Human Health Risk

DOE acknowledges the commentor's concerns about occupational exposures related to the degree of automation of the MOX facility. Appropriate automation would be used at the MOX facility and worker exposures would be kept as low as is reasonably achievable. DCS's experience in Europe shows that worker exposure is much lower than that reported in the SPD Draft EIS. As shown in the Human Health Risk sections in Chapter 4 of Volume I related to the MOX facility and in Appendix J (e.g., Table J-11), the average worker dose was revised to 65 mrem/yr from 500 mrem/yr. The cost difference between a highly automated MOX facility and the facility design presented in this SPD EIS has not been quantified.

The analyses presented in Chapter 4 indicate that the MOX facility would be operated in a manner that would minimize worker exposure. It is not possible at this point to describe every glovebox station in the MOX facility because its design is still evolving; however, it is known that certain processes (e.g., plutonium dioxide/depleted uranium dioxide blending) could result in higher occupational exposures than others. As explained in Chapter 4 and Appendix J, doses for all operations would be kept well below the Federal limit of 5,000 mrem/yr, and an ALARA program would ensure that doses are reduced to levels that are as low as is reasonably achievable.

FD336-28

NRC Licensing

NRC's role is defined. The MOX facility would be licensed by NRC under 10 CFR 70, *Domestic Licensing of Special Nuclear Material*. NRC will continue to be responsible for licensing the reactors that would use MOX fuel, and as such would have to approve the use of MOX fuel through the license amendment process (10 CFR 50.90). Early in the preparation of the *Storage and Disposition PEIS* and this SPD EIS, DOE invited NRC to be a cooperating agency for the surplus weapons-usable fissile materials program. NRC declined the offer in favor of being a commenting agency. DOE is conducting regular meetings with NRC on the MOX approach, including fuel design and qualification.

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D. *"In the feasibility assessment, DOE proved it is perfectly capable of presenting complex materials in an orderly, uniform, and coherent format. It would be very easy for DOE to assess occupational safety within the context of this existing framework.*

In Volume 2, part 3, "The Generic MOX fuel fabrication process," thirty four work stations are identified for the entire fabrication process. For each work station, DOE should answer the following questions in plain and simple language. A complex table filled with data in scientific notation is unacceptable, as is average worker doses. Workers should be made fully aware of the known and potential risks of working in a MOX facility.

1. What is the expected range of radiological exposure under normal and abnormal operating conditions? According to European MOX Fuel Fabricators, maximum and average radiation doses are significantly higher than the average reported by DOE in the S&D PEIS:

A "staged dose assessment" at BNFL's Sellafield MOX Plant reported plant averages of 1.5 rem/year with "high manual involvement."

Belgonucleaire reported that maximum exposures ranging from 4.7 rems/year to 1.4 rems/year between 1987 and 1996 at the P0 MOX plant. This figure is nearly six times higher than the projected average reported by DOE in the PEIS. Belgonucleaire exceeded, until 1996, BNFL and Siemens Radiological Standards and Criteria, and DOE administrative limits.

Siemens reported a proposed effective equivalent dose of 1 rem per year (10 msv/year).

How do DOE's estimates, which are admittedly for a more labor intensive facility, compare to estimates and working knowledge from Europe?

2. Which stations will involve working with oxide powders and what increased risks of inhalation and ingestion will these workers have relative to other work stations? How much "very light and fluffy" powder would have to be inhaled to cause acute health effects, chronic adverse health effects, or a high risk of cancer?

3. Which stations will involve working with MOX scrap materials and dry contaminated waste, and what are the increased and associated risks of working with these specific materials?

4. What options are available to lower all these risks if increased automation was available?"

In the Draft SPDEIS, DOE presented cumbersome tables burdened with irrelevant and redundant scientific notation, and neglected to address the range of radiation exposures in a MOX plant. In the Final SPDEIS, DOE should address these issues.

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FD336-29

Human Health Risk

The worker dose given in this SPD EIS was revised based on France's MELOX plant operating experience.

The higher worker doses quoted by the commentor are associated with European MOX facilities that handle reprocessed irradiated plutonium, which has a much higher dose conversion factor due to trace amounts of fission products in addition to a different plutonium isotopic spectra than that associated with weapons-grade material. For comparison, the same amount of unirradiated plutonium, such as that being proposed for the U.S. MOX facility, would have a dose conversion factor of about 75 percent less. It would therefore be expected that these worker doses would be higher than those resulting from the handling of unirradiated weapons-grade plutonium at the proposed MOX facility.

The remainder of this comment is addressed in response FD336-27.

FD336-30

Human Health Risk

The total predicted numbers of adverse health effects from working with plutonium, including plutonium in powder form, scrap materials, and dry contaminated waste, are included in the Human Health Risk sections of Chapter 4 of Volume I related to the MOX facility and in Appendix J (e.g., Table J-11). Less than 0.1 additional fatal cancers would be expected among workers from MOX facility operations over a 10-year period. Workers are protected against the inhalation of plutonium because glovebox operations are involved and the workers wear masks. During this same 10-year period, no additional fatal cancers would be expected from MOX facility normal operations in the general population. The amount of plutonium that would have to be inhaled to cause an LCF is about 0.00005 g (5 one-hundred thousands of a gram), depending on the isotope mixture. However, since the amount of plutonium inhaled by workers or the general population from the operation of the proposed surplus plutonium disposition facilities is significantly less than this, no LCFs from plutonium inhalation are expected.

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E. *"The feasibility assessment features a large number of technical points that raise additional questions that should be answered in the SPDEIS, such as:*

1. *How many plutonium processing steps are required within a MOX fuel fabrication facility that are not required in a vitrification facility?*
2. *MOX fuel materials will undergo frequent sampling and laboratory testing. For all necessary laboratory measurements, what mechanisms will be in place to insure quality control of critical measurements such as gallium content, isotopic ratios, fuel rod damages? What measures are necessary to assure proper accounting of plutonium?*
3. *The first blend of MOX fuel will require approximately 30% plutonium to "assure Pu isotopic homogeneity." Has this process been used before? What is the possibility of the identified alternative of extensive Pu blending being necessary? What additional risks to workers and operational costs would be incurred under the Pu blending alternative?*
4. *A ten percent "rework" factor is assumed throughout the process. At what point would a higher rework factor require that the MOX powder be "scrapped" and require immobilization? What is the effect of this rework on occupational safety?*
5. *What particle sizes are necessary to obtain uniform and homogenous MOX fuel blend required for commercial use? During process of the master blend, the powders are referred to as "very light and fluffy." What size particles will be involved at this "very light and fluffy" stage? What size particles are anticipated once the pore former, binder, and lubricant are added? How does this particle size, at each processing step, compare to the requirements for immobilization?*
6. *During sintering operations, a temperature of 1800 degrees centigrade in an argon/hydrogen environment is reported as required to volatilize undesirable materials. How is this temperature regulated? What would be the consequences of heating the MOX fuel pellets at higher temperatures? What are the risks associated with argon and hydrogen at these temperatures?*
7. *What is "grinder swarf?" What is the composition of this material and are there any additional hazards handling it?*
8. *What is the composition of "dirty scrap" which would accumulate during the fabrication process?*
9. *According to the assessment, dirty scrap would require either immobilization, storage, or chemical reprocessing (to retrieve the plutonium). What is DOE's preferred alternative for disposition of this dirty scrap? If immobilization is preferred, what steps would be necessary, if any, to prepare the scrap?*

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Concerning the commentor's question about increased automation, the MOX facility design is subject to modifications during the design and construction process. Modifications, including automation, may be made, as appropriate, to reduce radiation exposures and to optimize equipment placement and process flow. All proposed surplus plutonium disposition facilities, including the MOX facility, would incorporate design features and be operated in a manner that reduces doses to workers and the public to ALARA levels.

Although the format of the radiological impact data is the same among alternatives, there is no explicit redundancy in the information.

FD336-31

MOX Approach

The processing steps involved in the immobilization of surplus plutonium are given in Section 2.4.2, and those involved in the fabrication of MOX fuel are given in Section 2.4.3. A comparison of the number of processing steps would not be appropriate because a number does not provide an indication of the complexity of the process and the potential environmental impacts.

DOE would implement quality assurance and safeguards (material control and accountability) procedures at each of the proposed surplus plutonium disposition facilities. DOE has implemented a quality assurance program for the entire fissile materials disposition program in accordance with DOE Order 414.1. This quality assurance program will be expanded by DCS into detailed plans for each step of the disposition process. Additional safeguards may be added or modified as required, especially those needed to support international inspections.

As explained in Section 2.4.3.2, MOX fuel fabrication would begin with blending and milling the plutonium dioxide powder to ensure general consistency in enrichment and isotopic concentration. The uranium and plutonium powders would be blended and milled together to ensure uniform distribution of the plutonium in the MOX, and to adjust the particle size of the MOX powder. The MOX powder would then be made into pellets by pressing the powder into shape, sintering (baking at high temperature) the formed pellets, and grinding the sintered pellets to the proper dimensions.

Materials and pellets would be inspected at each stage, and any rejected materials would be returned to the process for reuse. All operations would be performed in sealed gloveboxes with inert atmospheres. Sintering furnaces would also be sealed, and offgases would be filtered and monitored prior to release to the atmosphere. Because blending is planned for all the plutonium dioxide, the risks are reflected in the Human Health Risk sections in Chapter 4 of Volume I related to the MOX facility and in Appendix J. Costs associated with the MOX facility are contained in a separate report as discussed in response FD336–10.

The 10 percent rework factor is a conservative estimate established to determine potential environmental impacts. It is not expected that the fabrication of MOX fuel would result in that amount of rework because the technologies used in this process are well known in industrial-scale operation. The human health risk of reworking 10 percent of the feed material are included in the overall risks reported in the Human Health Risk sections of Chapter 4 related to the MOX facility and in Appendix J.

The Request for Proposals specified that plutonium dioxide particle sizes would range from 1 to 100 microns. However, the decision to include the plutonium-polishing process in the MOX facility has essentially eliminated particle size requirements for the plutonium dioxide feed. The immobilization feed particle sizes are expected to range from 1 to 100 microns, although during processing, the particle size would be reduced to less than 20 microns (nominally 1 to 3 micron mean diameter).

A very narrow temperature range during sintering is required to produce uniform MOX fuel pellets that meet specifications. The temperature range would be controlled through standard mechanisms, including continual temperature measurement, automatic regulation of the heat source, and cooling mechanisms. These are standard industrial temperature control mechanisms used by industries that require high temperatures in their operations. The specific mechanisms, controls, equipment, and instrumentation would be selected during facility design. There are no safety concerns specific to the use of argon and hydrogen at the temperatures necessary for MOX fuel pellet production, only those related to any

high-temperature operation. Heating MOX fuel pellets at a temperature higher than 1,800 C (3,272 F) would not necessarily have any associated consequences. However, there is always the potential for pellets to be out of specification, even when all process parameters are met. Out-of-specification pellets can be recycled by returning them to the appropriate stage of the MOX fuel fabrication process.

The term “grinder swarf” as used in the *Feasibility Assessment* refers to MOX fuel material that results from grinding the sintered fuel pellets in a grinder to a uniform size. This material would be collected and recycled in the fuel fabrication process.

The term “dirty scrap” as used in the *Feasibility Assessment* is MOX fuel material that has become mixed with non-fuel material during processing or fabrication, and therefore, cannot be recycled as clean scrap. However, adding the plutonium-polishing process to the MOX facility makes this material amenable to recycling. DOE’s preference is to recycle the nominal amount of “dirty scrap” expected to be generated during MOX fuel fabrication this way. If larger than expected quantities of “dirty scrap” are generated during MOX fuel fabrication, this material would be immobilized, rather than recycled, to avoid creating the larger amounts of wastes that would be associated with processing the material through the plutonium-polishing step.

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10. DOE has consistently stated that a dry fuel fabrication process is desirable. It has not specifically explained the risks associated with existing wet processing technologies, or explained the differences between existing technologies. What is the possibility of an aqueous process becoming necessary? What increased risk to workers is there for using dry processes?

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11. There are several references to liquid waste in the feasibility assessment. In Volume 2, part 6, equipment is identified as necessary for "liquid waste containment and liquid waste treatment." In Appendix D, there is reference to an email message to "assume contaminated liquid waste generation is 5 liters/month." What is the composition of this liquid waste and was it reported in another format in the S&D PEIS? Exactly how much liquid waste will there be that was not reported."

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In the Draft SPDEIS, DOE did not address these issues and failed to adequately compare MOX to immobilization. In the Final SPDEIS, DOE must address these issues in order to provide the required comparison between MOX and immobilization.

XII. During the scoping period STAND wrote, in regard to plutonium pit disassembly and conversion:

A. "While disposition discussion has focused on MOX fuel and immobilization technologies, the action common to both alternatives—plutonium pit conversion/disassembly (pit conversion)—is characterized by an assortment of unanswered questions and technical difficulties.

Ironically, while DOE touts its dual track strategy for plutonium disposition, it is firmly committed to a single track strategy for pit conversion. DOE's sole alternative for pit conversion is the Advanced Recovery and Integrated Extraction System (ARIES). To date, DOE has not analyzed the full range of reasonable alternatives, has failed to identify the full range of alternatives, and has even failed to analyze the range of subalternatives within the ARIES alternative. In spite of abundant evidence to the contrary, DOE has mistakenly presented ARIES as common to all alternatives. In reality, ARIES or other pit conversion technologies have requirements that are specific to the MOX option, and this reality dictates that pit conversion not be analyzed as a common activity.

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There are two primary issues associated with the existing inadequate analysis which dictate a reevaluation of pit conversion:

1. The presence of gallium and other impurities in weapons grade plutonium, which was reported during the S&D PEIS process but not incorporated into the S&D PEIS analysis. The SPDEIS will require a reanalysis of pit conversion to incorporate the following issues as they pertain to gallium and other impurities within all pit conversion alternatives.

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Plutonium Polishing and Aqueous Processing

As discussed in response FD336–6, DOE has added a plutonium-polishing process in the MOX facility. The risks associated with this process are included in the Human Health Risk and Facility Accidents sections in Chapter 4 of Volume I related to the MOX facility and in Appendixes J and K.

The desirability of a dry process stems primarily from its modern nature. Wet processing, while historically the predominant method used by DOE, is an older, less efficient and messier technology. The dry HYDOX system, a simpler and more easily controlled process, is the current standard for new operations in the weapons complex. Metal dissolution via wet processing generates hydrogen at a rate controlled by acid concentration and temperature, as opposed to the dry process where hydrogen introduction is precisely controlled by the quantity of feed. Since metal dissolution in acid is an exothermic process (i.e., generates heat), wet dissolution has a multi-variable runaway reaction potential the dry process does not. Finally, the use of heated, pressurized acids in a recirculation system has historically led to significant leakage within gloveboxes over time. Coupled with the increased maintenance and repair loads of a wet process, this increases worker risk even beyond the difficulties it poses to efficient process control. The risks of aqueous processing are detailed in the EIS.

After the plutonium metal has been rendered into a powder in the pit conversion facility, this material is dissolved in the plutonium polishing process to remove gallium in the MOX facility. This step involves the classical processes used in wet processing recovery (e.g., ion exchange, precipitation, and calcination) with two important exceptions: plutonium oxide does not generate hydrogen in dissolution and does not require pressurized recirculation of the dissolution acid. The potential accident associated with the plutonium-polishing step are included in Appendix K.

FD336–33

Waste Management

The technical reports on which this SPD EIS is based provide liquid waste generation rates. The introduction to Appendix H was revised to include these liquid waste generation rates. For all but nonhazardous wastes, DOE

chose to combine the liquid and solid waste generation values into one waste generation rate for ease of comparison with site waste generation numbers. Generation rates for contaminated liquid waste would generally be small.

FD336-34 Plutonium Polishing and Aqueous Processing

As discussed in response FD336-10, the full range of reasonable alternatives for the disassembly of pits and conversion of the plutonium was analyzed in this SPD EIS. As discussed in response FD336-2, Sections 2.18 and 4.30 provide summary and incremental impacts, respectively.

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a. *Since the plutonium oxide derived from pit conversion must be very pure for MOX fuel fabrication, gallium must be reduced to very low levels (less than 100 parts per million) or altogether removed in order to fabricate MOX fuel. No similar requirements have been reported for conversion to plutonium oxide suitable for immobilization activities. DOE is obligated to address two pit conversion subalternatives, one for the MOX fuel track and one for the immobilization track. The differences in time, costs, waste streams, risks, and occupational hazards between conversion for MOX fuel use and conversion for immobilization action must be identified and analyzed clearly and completely. Failure to identify and analyze the range of effects associated with pit conversion will leave both the S&D PEIS and the SPDEIS legally and scientifically insufficient.*

b. *Gallium reduction for MOX fuel use is unproven. DOE has placed all its bets on thermal treatment, a dry process, even though this technology has not even been tested at a pilot stage. Nobody should be asked to accept an unproven technology. The alternative to thermal processing which was reported and discussed, but not incorporated into the analysis, is an aqueous process. Aqueous processing may be an undesirable technology, but it remains a reasonable alternative until a proven dry process is developed, tested, and proven suitable. Without identifying a reasonable, though undesirable, alternative DOE failed to fully analyze the cumulative effects of its decision to adopt the dual track strategy. The difference between the no-action alternative and the preferred alternative were inaccurately reported in the S&D PEIS. For the SPDEIS to be credible subalternatives must be developed for pit conversion for MOX fuel:*

- a. *Aqueous processing for gallium reduction.*
- b. *Thermal processing for gallium reduction.*

2. *The ARIES process has yet to be tested at a pilot scale and is currently being analyzed at the demonstration level. DOE has not identified and analyzed the full range of reasonable alternatives if ARIES technology cannot be implemented. The same issues and solutions discussed above are applicable here as well. For the S&D PEIS to be credible, DOE is obligated to identify and analyze the full range of reasonable alternatives for pit conversion.*

As pointed out numerous times, DOE has still not evaluated the full range of alternatives for plutonium pit disassembly and conversion, and has still not conducted a comparative analysis between the requirements and impacts for MOX versus immobilization. This should be addressed in the Final SPDEIS.

B. *Even within the ARIES process there are many emerging issues and questions that DOE is obligated to address. These include:*

Why is worker radiation exposure now estimated to be at 500 millirems per year, as reported by the Amarillo National Resource Center for Plutonium in its second quarter, 1997 newsletter? This is a 150% increase above the 300 millirems per year exposure documented in the S&D PEIS.

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Pit Disassembly and Conversion

The worker dose estimate in the *Storage and Disposition PEIS* was preliminary. This estimate was revised in this SPD EIS to reflect a greater understanding of the pits that would be dismantled and the associated doses connected with the dismantlement effort. This dose includes all of the steps needed to dismantle the pits and to convert the plutonium to an oxide during the operation at the proposed pit conversion facility (e.g., the Special Recovery Line). Section 2.4.1.2 was revised to more fully discuss the pit disassembly and conversion process.

The analyses presented in Chapter 4 of Volume I indicate that the pit conversion facility would be operated in a manner that would be in compliance with all applicable regulations. The pit disassembly and conversion process requires the handling of plutonium dioxide powder to transfer it from the oxidation furnace crucible to a handling can in the canning operation (which may include a blending step to declassify the powder). Automation of these steps is being evaluated as part of the technology development program and will be instituted if it is determined that the dose to the handler is too high.

As explained in Chapter 4 and Appendix J, doses for all operations would be kept well below the Federal limit of 5,000 mrem/yr and DOE's administrative limit of 2,000 mrem/yr. (The Pantex administrative limit, which is less than the 2,000-mrem/yr DOE limit, might be exceeded unless modified if the pit conversion facility were sited there.) An ALARA program would ensure that doses are reduced to levels that are as low as is reasonably achievable.

The LANL document, *Estimates of Staffing for the Pit Disassembly and Conversion Facility* (LA-UR-97-1844, 1997), was one of the referenced documents used to develop the *Pit Disassembly and Conversion Facility Environmental Impact Statement Data Reports* (LA-UR-97-2907 through 2910, June 1998).

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At each step of the ARIES process, what is the variability in worker exposure?

What steps in the ARIES process require workers to handle the plutonium oxide powder?

What wastes are created at each step of the ARIES process?

Since the NOI for the SPDEIS was issued, "ARIES" has been exposed as unnecessary for all plutonium pits and as only a portion--not the whole--of a plutonium pit disassembly and conversion operation. In the Final SPDEIS, these questions should be addressed in the context of all PDCF activities, not just "ARIES" operations.

DOE should incorporate the LANL document *Estimate of Staffing for the Pit Disassembly and Conversion Facility* into the Final SPDEIS.

XIII. During the scoping period STAND wrote, in regard to the role of the ANRCP:

"The Amarillo National Resource Center for Plutonium has functioned as a taxpayer funded MOX lobbying consortium. As stated in our previous comments and in a letter to Secretary Pana on May 23, 1997, the ANRCP has used, and continues to use, DOE funds to influence the site selection process outside of the NEPA process.

The Office of Fissile Materials has written, in a June 13 letter to STAND of Amarillo, PANAL, and Peace Farm, that the "Amarillo National Resource Center for Plutonium is not advising the Department on site selection, has no role in the SPDEIS and does not represent the Department in this regard." However, the ANRCP did have a role in the S&D PEIS. DOE must define how that role influenced the ROD for the S&D FEIS, and how that role affects the SPDEIS.

This is a critical issue because the ANRCP has used DOE funds to act in a clear advocacy role for siting all disposition facilities at Pantex, and this role was again illustrated at the DOE workshop in Amarillo on June 12, 1997. At the workshop.

ANRCP funded economist Ray Perryman presented comments in favor of locating all proposed facilities at Pantex. These comments were also distributed from the ANRCP workshop booth. The comments were based on an ANRCP report, and thus a DOE funded report, which concluded that Pantex is the best economic choice for all plutonium disposition and storage activities. What parallel studies with DOE funds have occurred for other sites?

An ANRCP poster presentation did not even reference immobilization as an option. It seems that the ANRCP has forgotten that the "N" in ANRCP stands for "National", and has failed to present the national implications of the disposition program.

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DOE Policy

ANRCP is a private entity funded and directed by the State of Texas using grant funds provided by DOE. The specific work they perform is the subject of agreement between ANRCP and the State of Texas. DOE (through the Amarillo Area Office) provides oversight only on the terms and conditions of the grant to the State of Texas. That oversight shows that the work being performed is within those terms. ANRCP has not and will not play a role in the preparation of this SPD EIS nor does it represent DOE in any manner. Further, the reports, studies, statements, and presentations made by ANRCP do not represent the position of DOE. For the above reasons, DOE has considered the commentor's suggestion of parallel studies and has decided they are not appropriate. Comments from ANRCP were treated the same as any other comment on the SPD Draft EIS.

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Since the hearings, ANRCP has continued to misinform the public. In the Volume III, Issue III ANRCP newsletter, "aqueous processing" is falsely defined as processing with water. ANRCP continually fails to inform area residents as to what aqueous processing and chemical dissolution really means, resulting in a controversial issue being dangerously understated.

In the same issue, ANRCP implies that glove box operations are a new technology, and states that the ARIES process will produce a "minimal amount of waste" and have safety precautions that would keep worker radiation exposure to a "minimal level." At no time has the ANRCP informed the public what a "minimal" waste stream is.

DOE must recognize and take into account the fact that ANRCP's activities strongly contribute to a public bias towards Pantex as a disposition site, and MOX as a disposition option. To correct for the blatant violations of the NEPA process incurred by the ANRCP, DOE should consider funding parallel studies at all candidate sites to compare the results of taxpayer funded research sponsored by ANRCP. Another valid option is for DOE to completely disregard all input from the ANRCP in the SPDEIS."

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These comments continue to adequately reflect the problematic nature of a publicly funded advocacy group disrupting the NEPA process. Since these comments were submitted the ANRCP completed a "Preliminary Comparative Risk Assessment" that failed to incorporate public input and presented a misleading and inaccurate portrayal of proposed plutonium processing operations at Pantex.

At the August 1998 public hearings in Amarillo, DOE-funded ANRCP employees and contractors provided substantial comments on the issues. These comments should be counted as DOE comments, not public comments, as they were funded by the Department of Energy.

STAND believes that the \$50 million of DOE funds spent on the ANRCP should be incorporated into DOE's Cost Analysis report. \$25 million should be added to the "operating costs" estimate for siting a plutonium pit disassembly and conversion facility at Pantex, and another \$25 million should be added to the "operating costs" for a MOX fuel fabrication facility.

XIV. During the scoping period STAND wrote, in regard to the role of the European plutonium industry:

"Representatives of the European MOX and plutonium fuel industry have exerted considerable energies to lobby the American public and DOE to move forward on the MCX option. DOE has not insured that voices are heard that counter this wave of publicity.

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DOE has defined the European MOX industry strictly in terms of its experience level to the absolute exclusion of its operational record. European MOX industry representatives have even acted as paid consultants to DOE.

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MOX Approach

DOE did consider past performance along with past experience in awarding the MOX fuel fabrication and irradiation services contract. DOE's NEPA implementing regulations in 10 CFR 1021 contain a specific provision, Section 216, which allows contracts to be let contingent on completion of the NEPA process, in this case the SPD EIS ROD. This section requires DOE to phase contract work in a way that will allow the NEPA review process to be completed in advance of a go/no-go decision. In the case of this SPD EIS, the go/no-go decision will be determined by which alternative is selected by the decisionmaker. In accordance with 10 CFR 1021.216, DOE prepared and provided an Environmental Critique, including information on DCS's European MOX experience, to the source selection board. The critique documents the consideration given to environmental factors and records the relevant environmental consequences of reasonable alternatives have been evaluated in the selection process. Until the decision is announced in the ROD, no substantive design work or construction can be started on the MOX facility. DOE then prepared an Environmental Synopsis on the basis of the Environmental Critique which was released to the public as Appendix P of the *Supplement to the SPD Draft EIS* in April 1999. During the 45-day period for public comment on the *Supplement*, DOE held a public hearing in Washington, D.C., on June 15, 1999, and invited comments. Responses to those comments are provided in Volume III, Chapter 4.

All comments received on the SPD Draft EIS were given equal consideration. DOE has prepared this SPD EIS by carefully obtaining comparable data on all of the alternatives, analyzing the data in a consistent manner using well-recognized and accepted procedures, and presenting the results in a full and open manner.

DOE has been actively pursuing immobilization options. Meetings have been held with European vitrification experts to gain their insights.

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This activity indicates a clear bias towards the MOX option that suggests that DOE is not sincerely considering a full immobilization alternative. After all, COGEMA and BNFL have substantial experience in vitrification, yet DOE is not consulting these companies on vitrification issues. For DOE to compensate for this bias towards MOX, it must objectively address the following issues and questions regarding European MOX experience in this EIS:

How much opposition to MOX fuel fabrication and utilization in Europe is there? What are the primary arguments citizens have set forth in opposition to MOX in Europe?

Why have two large MOX fabrication facilities--the Belgomucleaire P1 plant and the Siemens "new" Hanau plant--failed to obtain licenses during this decade?

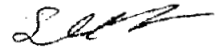
Why did the old Hanau plant operated by Siemens close in the early 1990's? How many accidents occurred at that plant during its operational history, and how many workers were contaminated with radiological materials?

What real impacts to air, water, and soil have European MOX facilities had in the past 30 years? DOE should obtain and make public annual data on emissions and discharges of radioactive and nonradioactive hazardous substances from these plants.

What differences in the regulatory framework--licensing, pollution limits, worker and public exposure to plant pollutants--exist between the United States and nations which fabricate and/or use MOX fuel?"

In the Draft SPDEIS, DOE only cited published documents from academic and trade journals to document the European MOX industry experience. This is an insufficient approach, and DOE should address these questions in the Final SPDEIS by obtaining and making public pertinent information on the European MOX industry as a condition for those companies doing business as DOE contractors.

Sincerely,



Don Moniak
 Program Director
 STAND of Amarillo

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STAND of Amarillo, Inc.

September 28, 1998

STAND COMMENT #12
Surplus Plutonium Disposition Draft Environmental Impact Statement (Draft SPDEIS)
Re: NEPA AND PLUTONIUM PIT STORAGE
AT THE PANTEX NUCLEAR WEAPONS PLANT

Office of Fissile Materials Management
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, D.C. 20585

Dear Department of Energy, Office of Fissile Materials Management:

The Department of Energy continues to store plutonium pits at the Pantex plant in containers unsuitable for long-term storage and in facilities that mostly lack required environmental controls and that are considered "unacceptable" by Pantex officials. Since DOE's National Labs consider "extended storage" to be greater than five years (see Background, Section III), most plutonium storage at Pantex should be defined as "long-term" rather than "interim." DOE's major efforts to improve the safety of long-term storage of plutonium pits at Pantex have not materialized, and DOE is formulating plans and proposals in response to its failure to implement its storage decisions, but without required public input.

I. "Interim" vs. "Long-term" Storage of Plutonium at Pantex.

A. Interim Storage of pits at Pantex is presently covered by the Record of Decision (ROD) for the *Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components* (Pantex EIS) and referenced in the *Storage and Disposition of Weapons-Usable Fissile Materials Final Programmatic Impact Statement* (SD-PEIS) and the *Stockpile Stewardship and Management Programmatic Environmental Impact Statement* (SSM-PEIS). Tiering of the Draft SPDEIS to these documents cannot occur without a supplemental EIS for long-term plutonium pit storage.

1. The Pantex EIS only addressed storage of pits from dismantlement activities, and not from other sites.

2. According to the Pantex EIS, "Interim storage does not refer to a time frame, but rather to the interval of time that will occur until a Record of Decision (ROD) is made on long term storage and the site and facilities in that ROD are ready to receive the pits. The decision on the site and facilities for long-term storage will be based on the SD-PEIS." (Page 1-10)

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Storage and Disposition PEIS and ROD

DOE acknowledges the commentor's concern regarding the storage of plutonium pits at Pantex. DOE is committed to the safe, secure storage of pits and is evaluating options for upgrades to Pantex Zone 4 facilities to address plutonium storage requirements. DOE has addressed some of the commentor's concerns in an environmental review concerning the repackaging of Pantex pits into a more robust container. This evaluation is documented in the *Supplement Analysis for: Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components—AL-R8 Sealed Insert Containers* (August 1998). This document is on the MD Web site at <http://www.doe-md.com>. Based on this supplement analysis, the decision was made to repackage pits at Pantex into the AL-R8 sealed insert container and to discontinue plans to repackage pits into the AT-400A container.

Worker exposure estimates attributable to the decision to repackage pits in AL-R8 sealed insert containers were incorporated in the revised Section 2.18 and Appendix L.5.1.

The issues raised in this comment relate to pit storage decisions made in the *Storage and Disposition PEIS* and the *Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components* (DOE/EIS-0225, November 1996). DOE is considering leaving the repackaged surplus pits in Zone 4 at Pantex for long-term storage. An appropriate environmental review will be conducted when the specific proposal for this change has been developed; addressing, for example, whether additional magazines need to be air-conditioned. The analysis in this SPD EIS assumes that the surplus pits are stored in Zone 12 in accordance with the ROD for the *Storage and Disposition PEIS*.

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3 The coverage for the Pantex EIS was only for "interim storage requirements for pits from weapons dismantlement." (Page 1-14). DOE also specified in the Pantex EIS, that, "the proposed action in this EIS was designed to specifically to encompass the interim storage of pits from weapons dismantlement until such time as longer term decisions regarding storage and disposition could be made and implemented." (Page 1-14, 1-16).

4 Coverage for interim storage of Rocky Flats plutonium was covered in the context of "cumulative impacts" for the preferred alternative in the SD-PEIS.

5. In the January 1997 ROD for the Pantex EIS, DOE selected Pantex for the interim storage of up to 20,000 plutonium pits in Zone 4 bunkers, and rejected interim storage of plutonium pits at other sites based on transportation risks and costs.

6. In the Pantex EIS, DOE failed to conduct a "full and fair analysis of the significant environmental impacts" (CFR 1502.1) did not analyze reasonably foreseeable significant adverse impacts such as the failure to implement the storage decision (CFR 1502.22.(b).(1), and omitted known scientific information. (See also Background: Section IV.)

B. Long-term storage of plutonium is covered in the ROD's for the SD-PEIS and SSM-PEIS, and referenced in the Pantex EIS. The failure to implement the SD-PEIS ROD could be interpreted as meaning that plutonium storage at Pantex would remain defined as "interim."

1. DOE confirmed that long-term storage of plutonium was only to be addressed in the SD-PEIS (and also SSM PEIS): "Decisions on the long-term storage of pits would be made in the ROD's of the PEIS's. A decision relating to the interim storage of pits at Pantex would be made in the ROD of the Pantex EIS pending implementation of the selected long-term storage alternative(s)." (SD-PEIS, Page 1-6, Page 1-7)

2. In Footnote 6 of the SD-PEIS (Page 1-7), DOE wrote that: "If there is a delay in implementing the ROD's for either of the PEIS's (for example, delay due to the availability and construction of upgrades for long-term storage facilities), then there would be a need to make a decision on the location of interim storage of pits. The Pantex EIS has been completed with the analysis of interim storage alternatives...to support a decision relating to the storage of pits until a long-term storage decision is made and implemented." (Page 1-9)

3. Storage of RFETS at Pantex was considered only in the context of long-term storage analyses and the cumulative impact of long-term RFETS plutonium storage on the interim storage of plutonium from dismantlement at Pantex.

4. In the SD-PEIS ROD, DOE selected Pantex as the long-term storage site for Pantex plutonium pits from dismantlement activities, RFETS plutonium pits, and SRS strategic plutonium pits. In the SD-PEIS, DOE selected existing facilities in Zone 12 at Pantex for long-term storage following upgrades to those facilities, and identified the AT-400A as the container in which all plutonium pits would be repackaged over a five year period.

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II. JUSTIFICATION FOR A SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR LONG-TERM STORAGE OF PLUTONIUM PITS

STAND believes the U.S. Department of Energy (DOE) is in violation of the National Environmental Policy Act (NEPA) for not conducting a supplemental EIS for long-term and interim plutonium pit storage. In addition, DOE should not "charge" the costs of plutonium pit repackaging to the operations costs for a Plutonium pit disassembly and conversion facility at DOE candidate sites other than Pantex. DOE is in violation of NEPA for three specific reasons:

A. The ongoing transportation of plutonium pits from DOE's Rocky Flats Environmental Technology Site (RFETS) near Denver, Colorado to the Pantex Nuclear Weapons Plant near Amarillo, Texas. This action was proposed in the January 1997 Record of Decision (ROD) for the Storage and Disposition of Weapons-Usable Fissile Materials Final Programmatic Impact Statement (SD-PEIS). Shipments of plutonium from RFETS to Pantex is in violation of NEPA for insufficient analysis and because it is only part of the long-term storage decision that has not been implemented. (see Background: RFETS Pu Shipments, Page 4)

B. Long-term storage activities at the Pantex plant that were not analyzed under NEPA. Since existing Rocky Flats plutonium pits were moved in violation of NEPA, they are being stored in violation of NEPA. According to the SD-PEIS ROD, long term storage of RFETS plutonium at Pantex was contingent upon the implementation of facility and container upgrades. These upgrades have since been abandoned. Long-term storage and interim storage activities of Rocky Flats plutonium at Pantex activities are occurring at the Pantex plant that were not analyzed under NEPA. (See Background: RF's Pu Interim Storage, Page 5)

Actions A and B are in violation of NEPA because:

- "NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken." (CFR1500.1 (b))

- The actions are not covered by the existing program statement (CFR1506.1 (c)).

- DOE has not prepared a supplemental Environmental Impact Statement in response to "substantial changes to the proposal or significant new circumstances or information." (CFR1021.314.(a)).

C. DOE is proposing and analyzing plans for long-term storage of plutonium at the Pantex plant outside of the NEPA process, which is in violation of NEPA requirements to

- "integrate the NEPA process with other planning at the earliest possible time to in planning and decisions reflect environmental values, to avoid delays later in the process, and to head off potential conflicts." (CFR1501.2).

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· "begin its NEPA review as soon as possible after the time that DOE proposes an action or is presented with proposal."

· "Agencies shall not commit resources prejudicing selection of alternatives before making a final decision." (CFR1502.2.(f)).

(see Background: Long-Term Plutonium Pit Storage Plans, Page 8)

A. Background: RFETS Pu Shipments

Part and on-going transport of plutonium pits from DOE's Rocky Flats Environmental Technology Site (RFETS) near Denver, Colorado to the Pantex Nuclear Weapons Plant near Amarillo, Texas is a violation of NEPA. This action was proposed in the January 1997 Record of Decision for the Storage and Disposition of Weapons-Usable Fissile Materials Final Programmatic Impact Statement.

1. The analysis of the effects of transport from Rocky Flats to Pantex was incomplete in the SD-PEIS, and some effects were not analyzed.

a. The future of the plutonium pits at Rocky Flats was analyzed within the context of the SD-PEIS. In the Pantex EIS, which only covered plutonium from dismantlement activities, DOE wrote that, "the environmental impact associated with transferring surplus pits from RF's to Pantex, including the impacts of their storage at Pantex Plant, will be included in the Final SD PEIS." (Page 1-15) Furthermore, DOE wrote that the proposed action in the Pantex EIS "would not require additional intersite transportation." (Page 3-24).

b. In the SD-PEIS, DOE wrote that, "The intersite transportation analysis for shipment of the RFETS Pu to Pantex is given in Section 4.4 of this PEIS for both workers and the public" (Page 4-53).

c. The only indication of an intersite transportation analysis in the SD-PEIS is a single "summary table" (Table 4.4.3.2-1) presented in Section 4.4 and titled: "Total potential fatalities from intersite transportation activities for the preferred alternative for storage." (Page 4-821). This same table is referenced and repeated in Section 4.6, pages 4-892-893.

d. In the SD-PEIS, DOE wrote that, in regard to intersite transfers, "supporting analyses and information are contained in Appendix G." (Page 4-821. Q-1)

e. DOE stated Appendix G in the SD-PEIS "provides estimated health risks from the transport of materials, historical shipment data for the affected sites, and other supporting documentation." (Page G-1).

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- f. In Appendix G, there is no supporting documentation for transportation of plutonium from RFETS to Pantex or other sites. Appendix G only contains historical intersite shipment data.
- g. Appendix G does not provide estimates of actual radiological exposures to maximum exposed individuals or the average exposures to people along the transportation routes.
- h. While Appendix G provides a substantial assessment of the risks of transportation for MOX fuel fabrication in Europe, it does not provide equivalent analyses for intersite transportation of plutonium pits or non-pit plutonium. There are no accident analyses of on-the-road transportation risks.
- i. Appendix M does not contain any analyses of on-the-road transportation risks only a bounding analysis for intrasite movement of plutonium.
- j. In the Pantex EIS, DOE evaluated the radiological exposure and health risk from shipping 8,000 plutonium pits and shipping 20,000 plutonium pits from Pantex to potential interim storage sites. (Section 4.16.4.1, Pages 4-232 to 4-234). No equivalent analyses for radiological exposure was conducted for transportation of RF's plutonium to Pantex. DOE also provided supporting documentation and analyses in Appendix F of the Pantex EIS for all intersite shipments of nuclear materials.

B. Background: RFETS Pu Interim Storage

Interim storage of Rocky Flats plutonium is occurring at Pantex although the storage activities do not involve those activities necessary to implement the SD-PEIS ROD. Long-term storage and interim storage activities of Rocky Flats plutonium at Pantex activities are occurring at the Pantex plant that were not analyzed under NEPA. (The failure to implement long-term storage ROD has also resulted in the disposition transportation analyses being invalid at this time.)

1. Rocky Flats plutonium pits were moved in violation of NEPA, and are being stored in violation of NEPA.
2. Analysis in the SD-PEIS was for long-term storage of plutonium pits presently at Rocky Flats, not for interim storage of Rocky Flats plutonium.
3. The Pantex EIS only addressed interim storage of plutonium pits resulting from the dismantlement of nuclear weapons, and not plutonium from other sites.

In the Pantex EIS, DOE wrote that, "the environmental impact associated with transferring surplus pits from RF's to Pantex, including the impacts of their storage at Pantex Plant, will be included in the Final SD PEIS." (Page 1-15)

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DON MONIAK
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4. The Pantex EIS only addressed the cumulative impacts of the SD-PEIS alternative for long-term storage of Rocky Flats Pu pits.

The final SD-PEIS will contain analyses of RFETS alternative, including "intersite transportation, packaging operations at both RFETS and Pantex plant, storage of the pits, first in Zone 4 and then in Zone 12, and intrasite transportation from Zone 4 to Zone 12. The environmental impacts of its action have been added to this cumulative impact discussion in Chapter 4 of this Final EIS." (Page 1-15)

5. There is no NEPA analysis for interim storage of RFETS plutonium pits. According to the SD-PEIS, Interim Storage of Rocky Flats plutonium was to address in the RFETS "Interim Storage of Plutonium at the Rocky Flats Environmental Technology Site EIS" (Page 1-9). There is no document prepared or being prepared.

6. According to the SD-PEIS, the supporting documentation for storage of RFETS Pu at Pantex is covered in Appendix Q of the SD-PEIS, "storage and intrasite transportation (at Pantex) of RFETS pits at Zone 4 West is described in Appendix Q." (Page 2-53, 4-812) and "intrasite transportation of pits between Zone 4 and Zone 12 at Pantex to support storage of RFETS pits for the Preferred Alternative is described in Appendix Q." (Page G-1).

7. The preferred alternative for long-term storage, and the analysis in Appendix Q to support storage of RFETS pits, is based on the assumption that existing Pantex facilities will be upgraded. According to the SD-PEIS, "Upgrade storage facilities in Zone 12 south (to be completed by 2004) at Pantex to store those pits currently at Pantex, and pits from RFETS, pending disposition. Storage facilities at Zone 4 would continue to be used for these pits prior to the completion of upgrades."

a. DOE did not analyze the effects of long-term storage of Rocky Flats plutonium in Zone 4 at Pantex. DOE presently intends to keep Rocky Flats and Pantex plutonium in Zone 4 pending disposition, which violates the spirit and letter of the SD-PEIS ROD (see IV).

b. In the SD-PEIS No Action alternative, DOE wrote that, "all site Pu holdings specific to the Storage and Disposition program would continue to be stored at Zone 4 facilities."

c. Use of Zone 4 for long-term storage of plutonium pits awaiting disposition constitutes an unreasonable alternative in the SD-PEIS. DOE did not cite Zone 4 long-term storage on Page 2-2, where it states that "Options that were not disqualified or eliminated through the use of the screening criteria emerged from the screening process...two options were identified as reasonable: Upgrade of storage facilities to make them suitable for long term storage and consolidation...at DOE sites." Long-term storage in Zone 4 did not pass this screening criteria.

d. In the SD-PEIS, the screening criteria for long-term storage included the technical viability of "providing "storage of nuclear components and materials for up to 50 years" (Page 2-2). In the

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Pantex EIS, the average remaining life span for 22 pit storage facilities at Pantex is only 34 years, and this average includes buildings in Zone 12 that are newer than those in Zone 4 (Page 4-10).

e. Pantex managers defined the proposed upgrade of facilities in Zone 12 as only providing "interim storage of strategic pits, excess plutonium and secondaries in existing facilities for up to 30 years without having to construct entirely new facilities."

f. All identified upgrades for pit storage are for Zone 12 at Pantex, not Zone 4:

• "Buildings 12-66 and 12-82 in Zone 12 south would be modified to accommodate the long term store of Pantex Pu material and RFETS pit Pu material for the storage preferred alternative." (Page 4-863, 4-873, 4-876, 4-879)

• "Since the result of any of these alternatives would be the removal of Pu pits not in weapons from Zone 4, aircraft crash and release probabilities would be reduced." (R-1)

• "The upgrade alternative would modify existing facilities in Zone 12 South." "The modifications for storage would be integrated into the Pantex infrastructure, waste, security and assembly/disassembly operations systems."

• Buildings 12-66 and 12-82 would be upgraded. (2-53)

g. In the SD-PEIS, DOE only analyzed the accident analysis of existing facilities in Zone 12. (Section M.5.2.5). "The accident analysis of the upgrade...of existing facilities at Pantex consist of two buildings, a Surplus Materials Storage Building (SM building) and a Strategic Reserves Storage Building (M-285)

8. The preferred alternative for long-term storage, and the analysis in Appendix Q to support storage of RFETS pits, is based on the assumption that repackaging of pits in AT-400A containers will occur the repackaging of plutonium pits in AT-400A containers.

a. DOE has failed to implement the AT-400A container repackaging program.

b. Even under the No-Action alternative, DOE was committed to repackage pits in the "more robust AT-400A containment vessel, and storage. (p. 2-22, SD-PEIS) DOE also committed to repackaging in AT-400A's in the Pantex EIS. The transportation of existing Pantex pits from Zone 4 to Zone 12 and the repackaging of the pits from AL-R8 to AT-400A containers is analyzed in the Pantex EIS (SD-PEIS Page 2-53). The analysis in the Pantex EIS, DOE stated that "because this pit repackaging process has not been done with this type of container, there is no historical dosimetry information available. Therefore, conservative dose estimates have been made for this operation." (Page 4-274, Pantex EIS).

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c. In Appendix Q of the SD-PEIS, DOE stated that pits to be transferred from Rocky Flats to Pantex "would be packaged in FL containers at RFETS before shipment, and upon receipt at Pantex, would be repackaged into AL-R8 containers in zone 12 South and placed into storage in Zone 4 west pending availability of AT-400A containers and relocation to upgraded facilities in Zone 12 South" (Q-1, 2-53)

d. "After the AT-400A containers are available, the pits would be repackaged into AT-400A containers for either long term storage or transportation to a disposition site." (Q-2, Q.4.)

e. In the Pantex EIS, DOE stated that "it is planned that up to 20,000 pits will eventually be repackaged in AT-400A containers," (Page 4-273), and in the SD-PEIS, DOE stated that 2,000 pits per year would be repackaged in AT-400A's starting in 1997 (SD-PEIS, Q.4).

f. In the SD-PEIS, DOE stated that, "For the disposition alternative, the transportation analysis was based upon the assumption that the storage preferred alternative had been implemented prior to the start of disposition transportation." (Page 4-893)

g. There is no analysis in Appendix Q or elsewhere in the SD-PEIS for repackaging of pits for transportation to a plutonium pit disassembly and conversion facility. DOE did not analyze the foreseeable option of the AT-400A program failing. (See Section III).

h. In 1996, Pantex managers stated "The AT-400A process will allow us to protect excess and strategic pits in storage until final disposition of the material is made."

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C. Background: Proposed Long-Term Storage Plans

DOE is proposing and analyzing plans for long-term storage of plutonium at the Pantex plant outside of the NEPA process.

1. DOE continues to store plutonium pits in AL-R8 containers at Pantex; even though DOE did not, and has not, reported or analyzed in any NEPA documents the real impacts of storing plutonium pits in AL-R8 containers for an "extended storage period."

a. DOE did not report known information about the AL-R8 during the SD-PEIS or the Pantex EIS. DOE only informed the public in NEPA documents that AL-R8's are not suitable for shipping. DOE did not inform the public that AL-R8's were considered unsuitable for extended storage by the Design labs.

In 1995, a joint Lawrence Livermore National Laboratory (LLNL) and Los Alamos National Laboratory (LANL) memorandum was issued to the Department of Energy's Albuquerque Operations Office as well as Pantex and DOE's Amarillo Area Office. In the letter, the labs recommended for strategic reserve pits:

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- defined "extended storage" as more than five years.
 - strongly recommended "that these pits be removed from the AL-R8's as soon as possible because of a potential corrosion problem caused by moisture and chloride in the Celotex."
 - "If AL-R8's are used for more than 5 years or greater, humidity control is recommended at 15-20% RH plus an aggressive monitoring program to be established "
 - Recommended temperature controls of 70 degrees (+/- 5 degrees) Fahrenheit in "both AL-R8 and AT-400A storage containers, and to all facility configurations."
- Storage recommendations for surplus pits were less rigid but did include "we recommend that no pits be stored in AL-R8's."
- b. DOE has no defined, approved schedule for repackaging of pits from AL-R8's into suitable storage containers and has not analyzed the impacts of long term storage of pits in AL-R8's .
 - c. Estimates for repackaging pits from AL-R8's into a suitable environment range from 15-30 years in the *Conceptual Design Report (CDR) for Building 12-66 (Pages 9, 11)* to five years—pending selection during the Pantex presentation to the PPCAB on 3/30/98.
2. DOE has not analyzed under NEPA the effects and cumulative impacts of repackaging of plutonium pits in containers that do not meet the same specifications for long term storage and transportation as the AT-400A, yet DOE is proposing to use the AL-R8 sealed insert for long term storage of plutonium pits and not use the AT-400A container.
- a. "A mechanical line for repackaging pits into AT-400A containers is expected to be operational in FY 1998 which will provide a combined total repackaging maximum capacity of 960 pits per year...At the present time the plans are to close the manual line when the mechanical line becomes operational which will reduce the repackaging output to less than 60 per month." (Conceptual Design Report, Page 9)
 - b. "A sealed insert has been developed, and is under review for use in storage of pits in AL-R8 containers." (CDR, Page 9)
 - c. Discussion of alternative storage containers began as early as July 1997 under the context of the AL-2100 working group. The AL-R8 was developed in 1997 and presented as an option to the public in September 1997.
 - d. DOE and Pantex presented analysis of storage container options to the Pantex Plant Citizens Advisory Board on March 31, 1998. The AL-R8 sealed insert was identified as a preferable container.

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c. In May, 1998, the DNFSB reported that sealed inserts had been selected for certain pit types, and that the AT-400A Manual Line was discontinuing and was being shutdown.

4. DOE is proposing to not upgrade Building 12-66 in Zone 12 for long term storage of surplus plutonium pits and intends to keep plutonium pits in Zone 12 despite considering this an "unacceptable alternative."

a. In December, 1997, the DNFSB reported that DOE was not moving forward with the upgrade of building 12-66.

b. DOE has not informed the public of this decision

c. Pantex is now evaluating Building 12-66 for a new mission of assembling Radioisotope Thermal Generator Mission.

d. In the Conceptual Design Report (CRD) for Building 12-66, DOE and its contractor determined that there were no other acceptable alternatives for either interim or long-term storage of plutonium pits at Pantex. (Pages 10-12). Zone 4 was considered unacceptable for continued storage because "these magazines are not properly equipped with the cooling systems necessary to ensure the pits are maintained at the required temperatures to preserve surplus pits during long term storage." (Page 10). No buildings other than 12-66 "are available or meet the criteria for providing a long term storage function for surplus pits." (Page 10).

e. In the Conceptual Design Report, the SD-PEIS is cited as a justification for not reviewing other DOE sites for long-term storage of surplus plutonium (Page 11).

f. The NEPA documentation for Building 12-66 identified the project as being part of the implementation of the SD-PEIS ROD.

g. DOE reported "reviewing" Zone 4 magazines for excess plutonium to the Pantex Plant Citizens Advisory Board on 3/31/98. There are no known NEPA documents identifying continued storage as implementation of any NEPA ROD's.

5. DOE is conducting an Integrated Pit Storage Program Plan (IPSP) without public input and without NEPA coverage.

a. The IPSP was presented to the PPCAB on 3/31/98 in the context of evaluating container options, facility options and modification, the surveillance program, and an implementation plan. The Final Draft was scheduled for release by 5/31/98, but remains unfinished. (DNFSB weekly reports).

b. The IPSP was identified as a work in process as early as January 1997. DOE told the GAO the Final Draft would be completed by 4/30/98.

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DON MONIAK
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- c. The IPSPP was first reported as being scheduled for January 30, 1998 (DNFSB weekly report: 1/16/98). A working draft was released that was described by the GAO as "only a preliminary draft" and "mostly in outline format." (GAO, Page 34).
- d. DOE internally presented an Integrated Pit Storage Plan briefing in early March (DNFSB Weekly Report for Pantex 3/6/98)
- e. An IPSPP "tiger team" began work in early April 1998 to provide "Pantex input on the DOE-AL IPSPP. Working groups were established to address: [1] packaging; [2] movement, staging, shipping, and receiving; [3] storage; [4] monitoring and surveillance; [5] safeguards/transparency." (DNFSB Weekly Reports for Pantex, 4/3/98, 4/10/98).

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Sincerely:



Don Moniak
Program Director
STAND of Amarillo, Inc.

FD337

Hello, my name is Claudia Stanford. I live in Amarillo, Texas and I heard on the news that we could comment at this number about our feelings on the possible ability of a plutonium pit disassembly plant being located here at Pantex. And I just wanted to express my feelings that I'm opposed to this and hope that this is placed somewhere else and feel as though it poses too much a threat to the Ogalala Aquifer. And just appreciate the opportunity to be able to express my feelings to you.

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PD018

PD018-1

Alternatives

DOE acknowledges the commentor's opposition to siting the pit conversion facility at Pantex. Section 4.26.3.2 analyzes impacts to the environment (including contamination to the Ogallala aquifer) due to construction and normal operation of a pit conversion facility at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based upon environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

Jim Steiert
Box 95
Hereford, TX 79045

August 19, 1998

U. S. Department of Energy
Office of Fissile Materials Disposition
P.O. Box 23786
Washington, DC, 20026-3786

To the DOE:

1 **OPPOSE** plutonium pit disassembly and conversion at the Pantex Plant at Amarillo. Undemonstrated and unproven technologies are proposed for use. Plutonium at Pantex imperils the precious Ogallala aquifer. Further processing of plutonium at Pantex presents an even greater hazard to groundwater and residents.

2 Pantex has already polluted its site with high explosives in a perched aquifer lying above the Ogallala, not only soiling its property, but adjacent private land as well.

Routine emissions of tritium, plutonium, americium, and other deadly compounds can be expected from the smokestacks of any plutonium processing facility at Pantex. Pit disassembly and conversion at Pantex would create unacceptable new hazards.

Pantex has never processed plutonium, and it doesn't have any business starting now. Your own agency's cost estimates place the taxpayer expense of locating plutonium processing at Pantex at \$60 million or more.

1 Despite promises, safety conditions at the Pantex plant haven't improved. Up to 20,000 plutonium pits are heating-up the old bunkers at Pantex. Both the U.S. Government Accounting Office and the Defense Nuclear Facilities Safety Board have been critical of plutonium storage safety at Pantex. Your agency promised that aging munitions bunkers at Pantex were for "temporary" storage of plutonium pits, yet the pits still remain crammed in these aging bunkers in unsuitable storage containers, potentially in an unstable environment. Many of these bunkers began heating-up immediately after pits went into them. Only about three bunkers even have air conditioning. How long is this "temporary" storage going to continue before some disaster occurs?

Pantex has neither the size, the equipment, nor the expertise to handle processing of plutonium. We don't need the radioactive contamination in the Texas Panhandle that your agency's presence and activities have already "gifted" Rocky Flats, Colorado, and Hanford, Washington with. **Keep plutonium pit processing OUT of Pantex!**

Thank you for the opportunity to comment.

Sincerely,

Jim Steiert
Box 95
Hereford, Texas 79045

MD083

MD083-1

Alternatives

DOE acknowledges the commentor's opposition to siting the pit conversion facility at Pantex. It is true that this would be the first consolidated facility for accomplishing surplus plutonium disposition on a large scale. However, the processes are not entirely new; many are in use at LANL and LLNL. DOE has recently started a pit disassembly and conversion demonstration project at LANL, where the processes will be further tested and additional data pertinent to future operations developed. As shown in Section 2.18, Table 2-4 includes a summary of the environmental impacts by alternative. Alternative 5 shows that the impacts associated with operating the pit conversion facility at Pantex would likely be minor. The estimated dose to the public from radiological emissions (e.g., americium, tritium, and plutonium) would be 0.58 person-rem/yr, which would result in an increase of 2.9×10^{-3} LCFs over the 10-year operating life of the facility.

DOE acknowledges the commentor's concern regarding the storage of plutonium pits at Pantex. DOE is committed to the safe, secure storage of pits and is evaluating options for upgrades to Pantex Zone 4 facilities to address plutonium storage requirements. DOE has addressed some of the commentor's concerns in an environmental review concerning the repackaging of Pantex pits into a more robust container. This evaluation is documented in the *Supplement Analysis for: Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components—AL-R8 Sealed Insert Container* (August 1998). This document is on the MD Web site at <http://www.doe-md.com>. Based on this supplement analysis, the decision was made to repackage pits at Pantex into the AL-R8 sealed insert container and to discontinue plans to repackage pits into the AT-400A container.

Worker exposure estimates attributable to the decision to repackage pits in AL-R8 sealed insert containers were incorporated in the revised Section 2.18 and Appendix L.5.1.

The issues raised in this comment relate to pit storage decisions made in the *Storage and Disposition PEIS* and the *Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and*

Associated Storage of Nuclear Weapon Components (DOE/EIS-0225, November 1996). DOE is considering leaving the repackaged surplus pits in Zone 4 at Pantex for long-term storage. An appropriate environmental review will be conducted when the specific proposal for this change has been developed; addressing, for example, whether additional magazines need to be air-conditioned. The analysis in this SPD EIS assumes that the surplus pits are stored in Zone 12 in accordance with the ROD for the *Storage and Disposition PEIS*.

MD083-2**Water Resources**

Analyses presented in Sections 2.18 and 4.26.3.2.2, respectively, indicate that there would be no discernible impacts on water quality or to the human health of nearby residents from normal operation of the proposed surplus plutonium disposition facilities at Pantex.

TEXAS, LIEUTENANT GOVERNOR
HONORABLE BOB BULLOCK
PAGE 1 OF 1



Bob Bullock
Lieutenant Governor of Texas
President, Texas Senate

The Capitol
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1-800-441-0375
1-800-735-2989 TDD

July 29, 1998

Mr. Bert Stevenson, NEPA Compliance Officer
DOE Office of Fissile Material Disposition
c/o SPE EIS
U.S. Department of Energy
P.O. Box 23786
Washington, DC 20026-3786

Dear Mr. Stevenson:

I have written in the past to express my support for the Pantex Nuclear Weapons Plant in Amarillo as an excellent choice for handling the U.S. Department of Energy's (DOE) surplus plutonium. I would like to take this opportunity to restate my position.

I am referring specifically to the selection of Pantex as the preferred site for locating the plutonium pit disassembly and conversion facility. I am aware that the DOE has selected the Savannah River Site as the preferred site for the MOX fuel fabrication facility and is considering SRS, along with Pantex, as the location for the disassembly and conversion mission. I believe it is in the best interest of Texas and the country that Pantex assume this new function.

Pantex has a long history of handling plutonium pits. Unnecessarily transporting classified plutonium pits across the country from Pantex would result in increased exposure to risks and higher costs to taxpayers. Pantex already has the infrastructure and operational protocol in place to ensure that disposition goals are met. Furthermore, the plant enjoys overwhelming public and political support in the community.

Disposition of the nation's surplus plutonium must be accomplished in a manner that protects the health and safety of our citizens and our environment. The Pantex plant has the expertise and is the logical choice for this new mission. Based upon these reasons, I urge (DOE) to designate Pantex as the site for the pit disassembly and conversion facility.

Sincerely,


BOB BULLOCK
Lieutenant Governor

BB:mhc

cc: The Honorable George W. Bush
The Honorable Teel Bivins
The Honorable Tom Haywood



MD008

MD008-1

Alternatives

DOE acknowledges the Lieutenant Governor's support for siting the pit conversion facility at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

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JMS/August 11, 1998

REVIEW COMMENTS
 SURPLUS PLUTONIUM DISPOSITION
 DRAFT ENVIRONMENTAL IMPACT STATEMENT, July, 1998

At the request of the Amarillo National Resource Center for Plutonium, a consortium of the Texas A & M University System, the University of Texas System, and Texas Tech University, I have reviewed the 4-part document "Surplus Plutonium Disposition Draft Environmental Impact Statement: Summary, Volume I-Part A, Volume I-Part B, and Volume II", U. S. Department of Energy, Washington, D. C., July, 1998 1,500 p. While my review of the Surplus Plutonium Disposition (SPD) Environmental Impact Statement (EIS) was focused on those parts relating specifically to the Pantex Plant and to the environmental quality assessment and impact considerations, a general review was given also to other locations under consideration.

The analysis of the 23 alternatives articulated and presented for review was thorough and balanced with respect to the various sites under consideration. I understand that some of these alternatives are no longer under consideration subsequent to a DOE recent decision to locate the fuel rod assembly fabrication process using plutonium oxide at Savannah River Site (SRS) which is the point of proposed final utilization in an existing nuclear power plant. This decision constrains the selection of alternatives involving Pantex to only those involving (a) current mission of long-term plutonium pit storage with upgrades, (b) pit disassembly, and (c) pit conversion of Pu into plutonium dioxide, a component along with uranium dioxide of eventual Mixed Oxide (MOX) fuel rods fabricated at SRS. In essence the remaining alternatives involving Pantex are as follows (n=8): Alternatives 1, 4A, 4B, 5A, 5B, 11B, 12C, and 12D.

I do not view Alternative 1 (No Action) as a viable option, in that the estimated half-life of plutonium in its present form is some 24,000 years. This is a long time for governments, militaries and taxpayers to guard and protect from terrorism, accident, environmental and natural resource damage, and human tragedy some 50 metric tons of active fissile material that has commercial value as well as obvious destructive potential. This potential "legacy" should not be left for future generations of Texans and other Americans. The 1:1 leveraging opportunities with the former Soviets with respect to their disassembled and stored fissile materials would be lost as well. The other 22 alternatives would put all this behind us by the year 2015, or with typical public works delays by the year 2020-2025 at least. The Panhandle, Texas, America and the world then will be a safer place.

So the question really becomes two-fold:

- (a) is the presently-proposed suite of technologies adequate to perform the plutonium handling and conversion safely and effectively; and
- (b) is it environmentally secure.

I will defer the former question to the involved experts in nuclear engineering, nuclear physics, chemical engineering, occupational health and safety, and other relevant fields. Regarding the second question, my involvement over the last 18 months with ANRCP technical

TXD49

TXD49-1

Alternatives

DOE presented its preferred alternative for siting the immobilization and MOX facilities in the SPD Draft EIS. However, these are only preferences, not decisions. The only alternatives that have been eliminated at this time are those in which the immobilization facility was proposed for Building 221-F at SRS. It was determined that the amount of space required for the immobilization facility would be significantly larger than originally planned. These new space requirements mean that the annex in Building 221-F would be similar in size and environmental impacts to a new immobilization facility at SRS. Therefore, this SPD EIS only presents the alternatives involving a completely new immobilization facility at SRS. DOE will announce its decision regarding facility siting in the SPD EIS ROD.

TXD49-2

Alternatives

DOE acknowledges the commentor's opposition to the No Action Alternative, analysis of which is required under NEPA. Section 2.5 indicates that the No Action Alternative would not satisfy the purpose and need for the proposed action because DOE's disposition decisions in the *Storage and Disposition PEIS* ROD would not be implemented. As indicated in Section 1.6, DOE has identified as its preferred alternative the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

TXD49-3

Human Health Risk

DOE acknowledges the commentor's conclusion that the surplus plutonium disposition activities could be conducted in an environmentally secure manner.

staff and a team of experts evaluating and providing risk assessment for the Pu/MOx fuel conversion process, together with my reading of the SPD EIS document itself suggests that, with the data presented so far, the remaining alternatives involving Pantex can be carried out in an environmental secure manner. The probabilities, exposure, and health effect numbers are very, very small. The land area that would be affected by worst-case scenarios involving release of Pu to the environment are very small, contained within site boundaries, and off-site impacts would be practically negligible.

Nevertheless, there is necessary and continuing involvement by agricultural scientists and engineers with the agencies affiliated with the Cooperative Research, Education, and Extension Triangle for the Panhandle (Texas Agricultural Experiment Station, Texas Agricultural Extension Service, West Texas A & M University, USDA-Agricultural Research Service, and Texas Veterinary Medical Diagnostic Laboratory), joined by our colleagues at TAMU-College Station and at the TAES Blacklands Research Center at Temple, in providing new data, information, questions, answers and dialogue from the perspective of agricultural production and processing, including soil/water/plant/animal/wildlife relationships. We are interested as well in impacts on water, soil and air resources from the perspective of rural residents and communities. Our concerns with maintaining the viability of crop, feedlot, range and pasture production systems as part of the human food chain, and of those who operate them, is paramount. The recent, current and future scientific projects with ANRCP sponsorship and involvement reflect those concerns and provide answers that should be taken into account with regard to the present SPD EIS and future plant design and operations. We are available for continuing dialogue and partnerships involving scientific discovery, interpretation, exchange, and education in these areas.

In terms of the EIS document itself, my remarks will be restricted to only a few areas at this time.

* **Summary, Section S.5**—Topics analyzed in the SPD EIS are appropriate: air quality, noise, waste management, socioeconomics, human health risk, facility accidents, transportation, environmental justice, geology and soils, water resources, ecological resources, cultural and paleontological resources, land use and visual resources, and infrastructure. However, agricultural production systems are not addressed for any of the potential sites, all of which sit in or adjacent to extensive crop and livestock production appropriate to the regions.

* **Chapter 2. Alternatives for Disposition of Surplus Weapons-Usable Plutonium**—
 - Page 2-3— As noted above, several of these alternatives can be eliminated with recent decisions regarding the SRS mission, namely Alternatives 2, 4A, 4B, 6A, 6B, 6C, 6D, 7A, 7B, 8, 9A, 9B, and 10.
 - Pages 2-4 to 2-7—From the maps, every site except Pantex has at least one river running through or adjacent to it.

* **Chapter 3. Affected Environment**—
 - **Section 3.1, Approach to Defining the Affected Environment**—the Region of Interest (ROI) did not directly include agricultural resources or production practices for any of the candidate sites. If environmental damage were to occur despite safeguards, the public would be

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TXD49

TXD49-4 General SPD EIS and NEPA Process

DOE acknowledges and appreciates the commentor's offer.

TXD49-5 Socioeconomics

Appendix J discusses food production analyses for potential radiological doses in counties near each of the candidate sites. Doses received via the ingestion pathways were then used in the dose assessment to the population at each specific site. The potential impacts on prime farmlands are evaluated in the Geology and Soils discussions in Chapter 4 of Volume I. According to the environmental analysis presented in this SPD EIS, neither construction nor normal operation of the proposed facilities should have an impact on the agricultural economy surrounding the candidate sites.

TXD49-6 Alternatives

The alternatives cited by the commentor cannot be removed as reasonable alternatives from this SPD EIS because DOE has not yet decided on an alternative for the disposition of surplus plutonium.

The remainder of this comment is addressed in response TXD49-1.

TXD49-7 Water Resources

As described in Section 3.4.7.1.1, no streams or rivers flow through Pantex although a number of playas at Pantex hold water after precipitation events. The closest river is the Canadian River 27 km (17 mi) north of Pantex. Although other sites have rivers running through or near them, the analyses presented in Section 4.26 indicate that there would be no discernible impact on surface waters.

TXD49-8 Socioeconomics

Appendixes J.1.1.3, J.2.1.3, J.3.1.3, and J.4.1.3 discuss incident-free (normal) releases of radioactivity from the proposed surplus plutonium disposition facilities to the food production chain for each of the candidate sites. The food grid was used in the assessment of doses to the population of each candidate site via the ingestion pathway. However, surplus plutonium disposition activities would be limited to each candidate site boundary and

very interested in food supply and food chain safety issues, and farmers/livestock producers would be directly affected in terms of restrictions on future production practices or marketing opportunities. These are an important considerations.	8
- Section 3.4, Pantex Plant, Pages 3-88 to 3-124 —the extensive agricultural production practices and programs within a 9-county area around Pantex nor adjacent to the site were not discussed or data listed. This information was provided to the ANRCP in January 1998 in a contract project final report and needs to be presented or summarized herein. The agricultural data should include: crops (types and acreage), soil management practices, livestock grazing (rangelands and wheat pasture), cattle feedlots including sources of feedstuff supplies, beef slaughtering and processing facilities, and grain storage. Dairies, horses swine, poultry, and other species of relevance are not identified as well. Potential secondary pathways of possible contamination--c.g. nonpoint source runoff, wind erosion, water erosion, etc.-- are not addressed. Similar information should be provided for all the other candidate sites in the respective sections within the Regions of Interest. For example, fruit, vegetable, cattle and dairy production are prominent in Idaho and Washington state in general vicinity of INEEL and Hansford plants, respectively, and South Carolina is a poultry production state. Also, no mention is made of local management districts for groundwater and surface water resources; these include the Panhandle Ground Water Conservation District No. 3, White Deer, which encompasses an 8-county area including Pantex.	9
* Chapter 4, Environmental Consequences --The forgoing comments for Chapter 3 generally apply to this chapter as well.	11
- Section 4.6, Alternative 4A --Indicates that the air quality impacts will be minimal along with waste management, human health, or water resource risks. Increments added by operation of the pit conversion at Pantex will be non-existent or minimal (Table 4-5 vs. Table 4-58), and resultant site concentrations will be far below EPA or TNRCC ambient air quality standards for most contaminants and below EPA NAAS for PM10 on both an annual and 24-hour averaging time basis.	12
* Appendix F, Impact Assessment Methods, and Appendix G, Air Quality --	
- Does not include information for any site concerning	13
- agricultural production practices	
- accidental releases--explosion, fires, spills, etc.	14
- dispersion modeling	
- areas affected	
- redistribution of particulates from Pantex by water or wind erosion.	
* Appendix I, Socioeconomics	
- Does not include discussion concerning agricultural production, land use, or rural residents including whether or not they could be affected.	15

TXD49

should not impact the soil used for agriculture and farming in adjacent regions. Any impacts to the surrounding areas would be within Federal, State, and local regulatory limits. Based on the analysis in this SPD EIS, there should be no impact on the agricultural lands surrounding the sites from the construction or normal operation of the proposed facilities.

TXD49-9 Socioeconomics

This comment is addressed in response TXD49-5.

TXD49-10 Water Resources

Section 3.4.7.2.1 reflects that Pantex is in Panhandle Groundwater District 3.

TXD49-11 Socioeconomics

This comment is addressed in responses TXD49-5, TXD49-8, and TXD49-10.

TXD49-12 Air Quality and Noise

DOE acknowledges the commentor's conclusion that air quality, waste management, human health, and water resource impacts at Pantex for Alternative 4A would likely be minor.

TXD49-13 Socioeconomics

Although Appendix F and Appendix G do not specifically address agricultural production practices, the potential impact to human health from the consumption of agricultural products is addressed in Appendixes J.1.1.3, J.2.1.3, J.3.1.3, and J.4.1.3. This analysis includes consideration of potential contamination of agricultural products and livestock, and consumption of these products by persons living within an 80 km (50 mi) radius of each of the candidate sites.

TXD49-14 Facility Accidents

Appendix F is actually an overview of accident analysis methods. Detailed development of the consequences of hypothesized accidents can be found in Appendix K and a discussion of dispersion modeling and particulate redistribution is included in Appendix J.

TXD49-15

Socioeconomics

Land use at Pantex is discussed in Section 4.26.3.5. It was concluded that because the environmental impacts associated with operating or constructing the proposed surplus plutonium disposition facilities at Pantex would likely be minor, there would be little if any impact on the surrounding land.

The remainder of this comment is addressed in response TXD49-13.

* **Appendix J, Human Health Risks--**

- The agricultural data mentioned (from the 1987 Census of Agriculture) but not shown should be presented for all four sites. This information should be presented in a separate Appendix.

- Other agricultural data sources or more recent vintage than the Census of Agriculture are readily available as well, from entities such as the State Crop and Livestock Statistical Services, the Cooperative Extension Services (eg. Texas Agricultural Extension Service), the USDA-Farm Services Agency, etc..

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- Analysis does not appear to take into account Pu doses, transience, or effects on field grain crops, forages, or animals, nor contamination pathways other than direct ingestion.

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The opportunity to review and comment on the SPD EIS document is appreciated. I hope these remarks are useful in strengthening the document and provide the basis for continuing development of greater scientific information regarding the environmental quality for Pantex and other sites in other locations also.

Prepared by: John M. Sweeten, Ph.D., P. E., Professor and Resident Director, Texas Agricultural Experiment Station, Texas A & M University Agricultural Research and Extension Center, Amarillo, TX.

TXD49

TXD49-16

Socioeconomics

This SPD EIS is tiered from the *Storage and Disposition PEIS*. The agricultural data used to model radiation doses to the public were based on the 1987 U.S. Census of Agriculture for the four candidate sites. These data are not reprinted in this SPD EIS but were made available to the public as a reference to the *Storage and Disposition PEIS*. The reference cited in the *Storage and Disposition PEIS* is *Health Risk Data for Storage and Disposition of Weapons-Usable Fissile Materials Programmatic Environmental Impact Statement* (HNUS, October 1996).

TXD49-17

Human Health Risk

DOE acknowledges the commentor's concern that the radiological impact assessments may not take into account doses from plutonium releases; transience considerations; effects on field grain crops, forage, and animals; and contamination pathways other than direct ingestion.

The assessments were performed using the GENII-II computer program, as discussed in Appendix F.10 and expanded on in Appendix J. The source terms in the assessments include the various plutonium isotopes released to the environment. All possible dosage pathways were evaluated: external exposure from finite atmospheric plumes, inhalation, internal exposure from consumption of food and inadvertent intake of soils, and external exposure from contaminated soils. Transience considerations would only marginally affect the results.

It is generally acknowledged that if humans were protected from radiation impacts, other biota would also be protected. Evidence from *Effects of Ionizing Radiation on Plants and Animals at Levels Implied by Current Radiation Protection Standards* (IAEA Technical Report Series 332, 1992) indicates that chronic doses below 0.1 rad/day (36.5 rad/yr) do not harm animals or plant populations. Since doses to humans from all pathways combined would be maintained below 0.1 rem/yr (DOE Order 5400.5), which is less than 0.1 rad/yr, it is highly probable that doses delivered to plants and animals would be less than 0.1 rad/day. Therefore, no radiological damage to plant and animal populations would be expected as the result of surplus plutonium disposition activities.

1998-008937 Aug 3 p 3:44



TEXAS AFL-CIO

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JOE D. GUNN
President

EMMETT SHEPARD
Secretary-Treasurer

July 30, 1998

Elizabeth Anne Moler
Acting Secretary of Energy
Department of Energy
Forrestal Building
1000 Independence Ave. S.W.
Washington, D.C. 20585

Dear Ms. Moler:

Thank you for the opportunity to comment on the Department of Energy's (DOE) Draft Surplus Plutonium Disposition Environmental Impact Statement (SPDEIS).

I am aware that DOE has selected the Savannah River Site (SRS) as the preferred alternative for the Mixed Oxide Fuel mission and is considering SRS, along with Pantex, as the location for the Pit Disassembly and Conversion mission. I am extremely disappointed in DOE's tentative decision to site the MOX mission at SRS, since Pantex remains the best and most economically feasible site for that mission.

I, now, wish to focus my comments on the selection of Pantex as the preferred site for locating the Pit Disassembly and Conversion mission. Pantex operates within an extremely strict safety envelope, adhering judiciously to "Conduct of Operations" and "Formality of Operations". Pantex currently stores more than 8,000 pits and have handled these items, safely, for over 45 years. This strict operations protocol and it's safety related infrastructure has been carefully maintained and has not been jeopardized as those at other sites where environmental restoration has been and continues to be the primary mission. Furthermore, given the current weapons assembly-disassembly and storage functions at Pantex, disassembly and conversion of the plutonium pits already stored and located there is consistent with the historic

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FD107

FD107-1

Alternatives

DOE acknowledges the commentors' support for siting the pit conversion facility at Pantex. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

Page -2-
 Elizabeth Anne Moler
 Acting Sec. of Energy

mission of the plant. Opponents who are opposed to siting disposition missions at Pantex, (SRS in particular), argue that DOE should not introduce plutonium missions at a site where the work could be considered "new" at the location. This argument is false and disingenuous because Plutonium work at Pantex has, is currently and will, in the future, be performed in the areas of Radiation Safety Contingencies, Waste Operations, and Pit Reuse. SRS, itself, is already sited for a "new" type of work - tritium production via an accelerator. If their argument is valid, then DOE has no alternative but to place the tritium mission elsewhere.

Pantex has a well-trained and qualified Union Workforce which is second to none in the nation. This Union Workforce is staffed by three full-time Metal Trades Council Union Safety Officers. No other plant in the nation has anything comparable to this program and it provides the crucial and necessary check and balance if DOE intends to follow former Secretary Pena's Memo on Environment, Safety and Health of April 14, 1998. This Union Safety Officers Program at Pantex has also been called a model for the entire DOE Complex by former Secretary of Energy Federico Pena. The Workforce actively participates in such endeavors as the Voluntary Protection Program, Integrated Safety Management, Seamless Safety-21 Program, and Enhanced Work Planning. Pantex's World Class Security Force, consistently ranked number one in the DOE complex, has, again, won the Secretary's Trophy as the Top Security Force in DOE. These accomplishments by the Pantex workforce do not sound as if they are a bunch of "amateurs" to me as they have been described by members of the South Carolina delegation. When considering the proliferation risks involved in unnecessarily transporting a large number of classified plutonium pits across the country from Pantex, it makes budgetary and policy sense to site disposition missions where storage already exists and is taking place. Pantex is clearly the most cost-effective site over the life of the program than any other site under consideration. Pantex has the necessary safety culture, security and surveillance capabilities to accommodate this expanded role.

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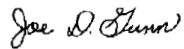
FD107

TEXAS AFL-CIO
JOE D. GUNN ET AL.
PAGE 3 OF 3

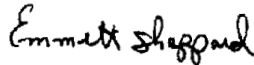
Page -3-
Elizabeth Anne Moler
Acting Sec. of Energy

Based upon these reasons, I respectfully urge DOE to designate Pantex as the
site for the Pit Disassembly and Conversion Facility. Thank you, in advance, for your
consideration. | 1

Yours truly,



Joe D. Gunn
President



Emmett Sheppard
Secretary-Treasurer

JDG/ES/vc
opeiu298/afl-cio

cc: The Hon. John Sharp, Texas State Comptroller
The Hon. Al Gore, Vice-President
Frank George, Metal Trades Council of Amarillo

FD107

Thank you for the opportunity to comment on the Department of Energy's actions regarding the location for the disassembly/conversion mission.

The Texas Building and Construction Trades Council is aware that D.O.E. has selected the Savannah River Site as the preferred alternative for the MOX fuel fabrication facility and is considering SRS, along with Pantex, as the location for the disassembly/conversion mission. We are very disappointed that the DOE decided to locate the MOX facility at SRS, since Pantex remains the best, cleanest, and cheapest site for that mission, and not coincidentally that it is a unionized plant.

Precisely because the Pantex plant has unionized, and therefore highly trained workforce, we are concerned that locating the plutonium pit disassembly and conversion mission at a site other than Pantex would not only increase the hazards of dealing with but would also ignore the facts that make Pantex the site most capable of ensuring that disposition goals are met with the utmost attention to economic and safety considerations.

Pantex is already uniquely suited to assume this new function, in spite of comments from some South Carolina politicians. Pantex currently safehouses

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TXD41

TXD41-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion and MOX facilities at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses (including analyses of transportation risks), technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

more than 8,000 surplus pits and has a long history of handling pits and related infrastructure in a highly professional fashion that has as its highest goal an excellent safety culture. Furthermore, given the current weapons disassembly and storage functions at Pantex, disassembly and conversion of the pits already located here is consistent with the historic mission of Pantex.


Pantex is ready to go Day One, with a well-trained, unionized workforce—hardly the group of “amateurs” as they have been described.

We believe the Pantex site is best for the above reasons and when one considers the risk factors of moving live weapons clear across the country, we believe that the logical conclusion is that it’s cheaper, safer and easier to track converted plutonium pits for IAEA and international inspections at the site of original pit storage.

Based upon these reasons, I, as Secretary-Treasurer of the Texas Building and Construction Trades Council, respectfully urge D.O.E. to designate Pantex as the site for the pit disassembly and conversion facility. Thank you for the opportunity to comment of this decision-making process.

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TXD41



The State of Texas
House of Representatives
Austin, Texas

July 31, 1998

John Smithee
State Representative
District 85
Amstrong
Deer Smith
Culbren
Randall

Committees:
Insurance
Chairman
Energy Resources

DOE Office of Fissile Material Disposition
c/o SPD EIS
U.S. Department of Energy
P.O. Box 23786
Washington, DC 20026-3786
Attn: Mr. Bert Stevenson
NEPA Compliance Officer
Re: Comment on DOE's Draft Surplus Plutonium
Disposition Environmental Impact Statement

Dear Mr. Stevenson:

Thank you for the opportunity to comment on the Department of Energy's (DOE) Draft Surplus Plutonium Disposition Environmental Impact Statement (SPD EIS).

Pantex has been a very important part of the Panhandle since the 1940's. Safety and health is a constant concern for any community where radioactive materials are present. I feel that our first priority is to ensure that any expansion at Pantex be conducted in a safe and environmentally sound manner. 1

We are aware that DOE has selected the Savannah River Site as the preferred alternative for the MOX fuel fabrication facility and is considering Savannah River, along with Pantex, as the location for the disassembly/conversion mission. The Amarillo community was very disappointed in DOE's decision to site the MOX facility at Savannah River, since Pantex remains the best and cheapest site for the MOX facility. 2

I do want to focus my comments on the proposed plutonium disposition actions and alternatives discussed by the department on the selection of Pantex as the preferred site for locating the plutonium pit disassembly and conversion facility. There is growing concern that locating the conversion mission at a site other than Pantex would not only increase the hazards of dealing with plutonium, but would also ignore the facts that make Pantex the site most capable of ensuring that disposition goals and economic and safety concerns are meet. 3

Capitol: P.O. Box 2910 • Austin, Texas 78768-2910 • 512-463-0702 • FAX: 512-476-7016
District: P.O. Box 12036 • Amarillo, Texas 79101 • 806-372-3327 • FAX: 806-379-8568

MD010

MD010-1

DOE Policy

DOE has and will continue to make health, safety, and environmental issues a matter of utmost importance in the planning and conduct of all nuclear operations, including the disposition of surplus plutonium. This SPD EIS shows that the impact of properly implementing the proposed action at Pantex would have no major effect on the health, safety, and environment in the Amarillo area.

MD010-2

Alternatives

DOE acknowledges the Representative's support for siting the MOX facility at Pantex. As indicated in Section 1.6, SRS is preferred for the MOX facility because this activity complements existing missions and takes advantage of existing infrastructure and staff expertise.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. Because cost issues are beyond the scope of this EIS, this comment has been forwarded to the cost analysis team for response. The cost report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS and Washington, D.C.

MD010-3

Alternatives

DOE acknowledges the Representative's support for siting the pit conversion facility at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses (including analyses of transportation risks), technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

TEXAS HOUSE OF REPRESENTATIVES
HONORABLE JOHN SMITHEE
PAGE 2 OF 2

page 2
State Representative John Smithee
Mr. Bert Stevenson
Department of Energy

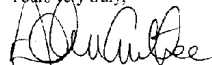
Pantex has played a major role in our national defense needs. It is uniquely suited for this new function. The taxpayers have already paid for more than 8,000 surplus pits and trained qualified employees to handle pits and the related infrastructure with and operational protocol that is the mainstay of an excellent safety culture.

There are numerous other matters such as proliferation risk, and the transportation of plutonium that I am not qualified to discuss, but, are very important issue that must be dealt with. I feel that if these matters are addressed with regard to safety, cost, and what is best for the nation, Pantex, is the best site for the disassembly and conversion mission.

Again, I want to thank the department for allowing me to voice my concerns and views on this matter, and would respectfully urge DOE to designate Pantex as the site for the pit disassembly and conversion facility.

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Yours very truly,



John Smithee

MD010

ORAL STATEMENT BY STATE REPRESENTATIVE DAVID SWINFORD AT
 AUGUST 11, 1998 DOE HEARING ON DRAFT SURPLUS PLUTONIUM
 DISPOSITION ENVIRONMENTAL IMPACT STATEMENT

Thank you for the opportunity to comment on the Department of Energy's (DOE) Draft Surplus Plutonium Disposition Environmental Impact Statement (SPD EIS).

I wish to focus my comments on the selection of Pantex as the preferred site for locating the plutonium pit disassembly and conversion facility. I am concerned that locating the conversion mission at a site other than Pantex would not only increase the hazards of dealing with plutonium but would also ignore the facts that make Pantex the site most capable of ensuring that disposition goals are met with the utmost attention to economic and safety considerations.

Pantex is already uniquely suited to assume this new function. Pantex currently safeguards more than 8,000 surplus pits and has a long history of handling pits and the related infrastructure and operational protocol that is the mainstay of an excellent safety culture. Furthermore, given the current weapons disassembly and storage functions at Pantex, disassembly and conversion of the pits already located there is consistent with the historic mission of the plant. Pantex has a production culture with a well-trained workforce - hardly a group of "amateurs" as they have been described by members of the South Carolina congressional delegation.

The Pantex plant enjoys tremendous public and bipartisan political support for new missions. To accomplish its disposition goals, DOE must have strong, broad-based political support. Bringing in the support of Texas Senators and Congressmen will help ensure that DOE disposition initiatives succeed.

Based upon these reasons, I respectfully urge DOE to designate Pantex as the site for the pit disassembly and conversion facility. Thank you for the opportunity to comment on this decision-making process.

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TXD40-1

Alternatives

DOE acknowledges the Representative's support for siting the proposed pit conversion facility at Pantex, as well as the observations regarding broad political and community support. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors.

This SPD EIS analyzes the potential environmental impacts associated with implementing the proposed activities at the candidate sites. The results of these analyses, presented in Chapter 4 of Volume I and summarized in Section 2.18, demonstrate that the activities would likely have minor impacts at any of those sites, including Pantex. Incident-free (normal) releases of radioactivity from the proposed surplus plutonium disposition facilities to the food production chain are explained for each site in Appendix J. Current and future operations at the candidate sites should not impact the soil used for agriculture and farming in any of the regions adjacent to these sites.

TEXAS RADIATION ADVISORY BOARD
MICHAEL S. FORD
PAGE 1 OF 3

Statement to DOE on PD&C Mission at Pantex/ M. S. Ford
Page 1 of 3
11 August 1998

Good afternoon. My name is Michael Ford and I stand before^{you} wearing two hats today. I making a living as a certified health physicist and radiological engineer at Pantex. However, my primary role here today is to represent the Texas Radiation Advisory Board (TRAB). We advise three agencies within the State of Texas on radiation safety matters: the Bureau of Radiation Control, the Texas Natural Resource Conservation Commission, and the Railroad Commission of Texas. While the TRAB has not taken specific action to endorse the Pit Disassembly and Conversion mission, the TRAB continues to take an interest in Pantex operations. It is anticipated that a vote for endorsement of the PD&C mission at Pantex will be held at the October 3rd, 1998 meeting. Based on my understanding of the position of several members of the Board, I feel that the TRAB would join Governor Bush in supporting the PD&C mission at Pantex.

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Certain troubling statements by two South Carolina politicians, however, require a clarification of any terms of the support for this facility. Representative Lindsey Graham (R-S. C.) has stated on August 3rd 1998 that "It would be foolhardy to introduce plutonium contamination to a site that isn't already contaminated." And on August 4th, Senator Strom Thurmond of South Carolina indicated that he was willing to use the existing separations canyons — 1950's and 60's technology — to perform the PD&CF mission as a cost savings.

The combined affect of these statements by these politicians indicate that South Carolina is less concerned about embracing the proposed technology — which would confine the plutonium to enclosed processes -- than they are about bringing the work to their state. Unfortunately, it appears that they are prepared to increase the plutonium contamination at Savannah River Site at the expense of the surrounding environmental in order to secure the facility. I firmly believe that I would speak for the Governor and all members of the TRAB when I say that a PD&CF that uses the inefficient and wasteful technologies of the 50's and 60's would be an unacceptable replacement for what is proposed in the SPD EIS. As a TRAB member and a U.S. taxpayer, I find South Carolina's position to be very troubling.

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TXD45

TXD45-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

TXD45-2

DOE Policy

DOE acknowledges commentor's concern that the surplus plutonium disposition program be carried out in an environmentally safe and efficient manner. The proposed surplus plutonium disposition facilities would be designed, constructed, operated, and deactivated in accordance with applicable Federal, State, and local environmental, safety, and health requirements. Within these limits, DOE believes that the level of contamination should be kept as low as is reasonably achievable, so that the benefit of reducing the already low level of contamination would warrant the additional cost of that reduction. Further, D&D would be necessary wherever the proposed facilities were located. D&D is discussed in Section 4.31. DOE will evaluate options for D&D or reuse of the proposed facilities at the end of the surplus plutonium disposition program.. At that time, DOE will perform engineering evaluations, environmental studies, and further NEPA review to assess the consequences of different courses of action.

This SPD EIS does not consider the use of existing canyons for any pit disassembly and conversion activities. For example, the use of F-Canyon at SRS to convert plutonium for use in either the immobilization or MOX facility would require reconfiguring the canyon and keeping it in operation for another 10 years or more. DOE has already made a commitment to the public, the U.S. Congress, and DNFSB to shut the canyon down.

TEXAS RADIATION ADVISORY BOARD
MICHAEL S. FORD
PAGE 2 OF 3

Statement to DOE on PD&C Mission at Pantex/ M. S. Ford
 Page 2 of 3
 11 August 1998

In reviewing the Cost Analysis (in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition), I noted with interest where the document states in multiple locations that -- in both constant 1997 dollars and discounted costs -- overall, the costs for the alternatives are approximately the same. However, some clarification would be appreciated in the following areas:

1. It appears that some of the PD&CF needs for SRS are being rolled into the design changes for the APSF (page 3-3) and are not being reflected in the cost estimates.
2. The need for a Source Calibration Facility is not discussed in the SPD EIS and its function is not stated in the Cost Analysis. Instrument calibrations are currently handled by both Pantex personnel and offsite calibration services.
3. The initial D&D efforts needed to support construction in currently contaminated facilities is not addressed in any detail. (pg. 1-9).
4. The indirect cost factors were not explained in any detail. It was not clear whether these factors varied by location, and if so, what the basis for the variation was (pg. 1-10).
5. It is unclear as to what additional SNM-processing facilities are required beyond those that the PD&CF provides (pg. 2-3).
6. Zone 4 stores weapons and pits (§ 2.3.3, ¶2).

The costs for repackaging the pits was addressed in the Cost Analysis as \$69M for repackaging and \$10M to \$15M for transportation, but little attention was paid to what impact the repackaging effort might have on Pantex's weapons mission. Over the last five years, Pantex's total collective doses have ranged from 14.6 to 44.9 person-rem with an average of 31 person-rem. In the EIS addressing plutonium storage, it was estimated that approximately 30 person-rem per year would be incurred due to the repackaging of pits in DOT Type B containers. Such an activity would roughly double Pantex's average exposures, and it would triple 1997's collective doses. With the reduction in the dose limits, this could have a noticeable impact on Pantex's weapons mission.

TXD45

TXD45-3

Cost Report

Because this comment relates directly to the cost analysis report, it has been forwarded to the cost analysis team for consideration. The *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, is available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS and Washington, D.C.

TXD45-4

Human Health Risk

Appendix L.5.1 was revised to show that workers at Pantex would receive an additional dose of 10.4 person-rem/year. On the basis of a health risk estimator of 400 fatal cancers per 1 million person-rem (see Appendix F.10.2.1), a dose of 10.4 person-rem translates to an increase of 0.0042 LCF per year. Thus, for a 10-year operational period, the risk of a single additional fatal cancer among the workforce would be less than 1 in 20. While DOE continually evaluates dose limits, there are no current plans to change the existing limits.

TEXAS RADIATION ADVISORY BOARD
MICHAEL S. FORD
PAGE 3 OF 3

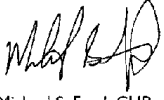
Statement to DOE on PD&C Mission at Pantex/ M. S. Ford
Page 3 of 3
11 August 1998

Finally, Pantex personnel have been called "amateurs" with regard to the PD&C mission. Using the word "amateur" does not appear to be consistent with Pantex's role in assembling, disassembling and maintaining some of the most complex weapon systems in the world. While Pantex has not undertaken plutonium processing operations in the past, its record of safely handling both plutonium and high explosives more than demonstrates the competence and capabilities of Pantex personnel to successfully undertake the PD&C mission.

5

Thank you for allowing me to speak on behalf of the TRAB.

Very Respectfully,



Michael S. Ford, CHP
Member

Texas Radiation Advisory Board
1100 West 49th Street
Austin, Texas 78756

TXD45

TXD45-5

Other

DOE would not have considered Pantex for the surplus plutonium disposition program if it did not believe that Pantex employees were qualified to perform the work safely and effectively.



TOM HAYWOOD
DISTRICT 30

The Senate of
The State of Texas

CAPITO. OFFICE
P.O. Box 10088
Austin, Texas 78711
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COMMITTEES:

ECONOMIC DEVELOPMENT
EDUCATION
NATURAL RESOURCES
+ SUBCOMMITTEE ON HIGH CULTURE, CHAIRMAN
NOMINATIONS

July 28, 1998

Bert Stevenson, NEPA Compliance Office
DOE Office of Fissile Material Disposition
c/ SPD EIS
US Department of Energy
PO Box 23786
Washington, DC 20026-3786

Dear Mr. Stevenson,

Thank you for the opportunity comment on the Department of Energy's Draft Surplus Plutonium Disposition Environmental Impact Statement (SPD EIS).

Please know that I am adamant that any current and future functions at Pantex be conducted in a safe and environmentally sound manner. My first priority is to ensure that expansion there does not impair the health or safety of area residents, or have an adverse effect on the environment. These goals serve as a prerequisite to any current or future activities at Pantex, which is located within my Texas Senate District.

I am aware that DOE has selected the Savannah River Site (SRS) as the preferred alternative for the MOX fuel fabrication facility and is considering SRS, along with Pantex, as the location for the disassembly/conversion mission. I am extremely disappointed in DOE's decision to site the MOX facility at SRS, since Pantex remains the best and cheapest site for that mission.

However, of the proposed plutonium disposition actions and alternatives discussed by the department in the SPEIS, I wish to focus my comments on the selection of Pantex as the preferred site for locating the plutonium pit disassembly and conversion facility. I am concerned that locating the conversion mission at a site other than Pantex would not only increase the hazards of dealing with plutonium, but would also ignore the facts that make Pantex the site most capable of ensuring that disposition goals are met with the utmost attention to economic and safety considerations.

Pantex is already uniquely suited to assume this new function. Pantex currently storehouses more than 8,000 surplus pits, with a long history of handling pits and the related infrastructure and

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843/777-3075

2091 Lovvick Hwy., Suite 235
Sherman, Texas 75090
940/665-2347

1025 East 10th, Tenth Street
Arling, Texas 75001
972/72-2439



MD006

MD006-1

DOE Policy

DOE has and will continue to make health, safety, and environmental issues a matter of utmost importance in the planning and conduct of all nuclear operations, including the disposition of surplus plutonium. This SPD EIS shows that the impact of properly implementing the proposed action at Pantex would have no major effect on the health, safety, and environment in the Amarillo area.

MD006-2

Alternatives

DOE acknowledges the Senator's support for siting the MOX facility at Pantex. As indicated in Section 1.6, SRS is preferred for the MOX facility because this activity complements existing missions and takes advantage of existing infrastructure and staff expertise.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS and Washington, D.C.

MD006-3

Alternatives

DOE acknowledges the Senator's support for siting the pit conversion facility at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

operations protocol that is the mainstay of an excellent safety culture. Furthermore, given the current weapons disassembly and storage functions at Pantex, disassembly and conversion of the pits already located there is consistent with the historic mission of the plan. Opponents of siting disposition functions at Pantex (SRS in particular) argue that DOE should not introduce plutonium missions at a site where the work could be considered "new" at the location. This argument is false and disingenuous. With the new MOX facility, SRS will undertake an NRC licensed function which is completely new to it -- current and future personnel will be required to receive training in an entirely new function. Pantex, on the other hand, has a production culture with a well trained, unionized workforce -- hardly a group of "amateurs" as they have been described by members of the South Carolina delegation.

3

When considering the proliferation risks involved in unnecessarily transporting a large number of classified plutonium pits across the country from Pantex, it makes budgetary and policy sense to site disposition functions where storage already exists. *First*, due to its cheaper labor costs and utility rates, and water and land availability, Pantex clearly is the most cost-effective site over the life of the program than any other site under consideration. *Second*, transportation of plutonium in non-classified form (after disassembly and conversion at Pantex) to the SRS is far preferable to the perils that would be incurred by shipping plutonium in a weapons-ready form. Pantex has the necessary safety, security, and surveillance capabilities to accommodate an expanded role. *Third*, it is in the best interests of the United States to engage Russia in bilateral demilitarization and inspections independent of the politically contentious MOX fuel fabrication process. It will also be far easier to track converted plutonium pits for IAEA and international inspections if these activities are undertaken at the site of original pit storage.

4

The Pantex plant enjoys tremendous public and bipartisan political support for new missions, and could provide them at the lowest additional costs to taxpayers. To accomplish its disposition goals, DOE must have strong, broad-based political support. Bringing in the support of Texas Senators and Congressmen could ensure the success of DOE disposition initiatives.

3

While I do not profess to be a rocket scientist, my doctorate in physics and my 1996 tour of the Pantex facility do provide greater insight.

Based upon these reasons, I respectfully urge DOE to designate Pantex as the site for the pit disassembly and conversion facility.

3

Sincerely,



TOM HAYWOOD
Texas State Senator

MD006-4

Transportation

DOE has considered the inherent risks, including proliferation concerns, associated with transporting pits versus plutonium dioxide. While DOE prefers to minimize the transportation of plutonium that is still desirable for weapons use, plutonium is routinely and safely transported in the United States. As described in Appendix L.3.3, transportation of nuclear materials would be performed in accordance with all applicable DOT and NRC transportation requirements. Interstate highways would be used, and population centers avoided, to the extent possible.

All shipments of surplus plutonium that have not been converted to a proliferation-resistant form would be made by DOE's SST/SGT system, as described in Appendix L.3.2. During the first week of September 1998, Presidents Clinton and Yeltsin held a Moscow summit and signed a statement of principles with the intention of removing approximately 50 t (55 tons) of plutonium from each country's stockpile. By working in parallel with Russia to reduce stockpiles of excess plutonium, the United States can reduce the chance that weapons-usable nuclear material could fall into the hands of terrorists or rogue states and help ensure that nuclear arms reductions will never be reversed.

MD006



John Hirschi
State Representative
District 69

August 17, 1998

U.S. Department of Energy
Office of Fissile Materials Disposition
P.O. Box 23786
Washington, DC 20026-3786

Dear Department of Energy, Office of Fissile Materials Disposition:

I do not support plutonium processing at the Pantex Plant. In the *Surplus Plutonium Disposition Draft Environmental Impact Statement*, the Department of Energy prudently decided against locating one plutonium processing facility (MOX fuel fabrication) at the Pantex Plant. For the following additional reasons, a Plutonium Pit Disassembly and Conversion facility also should not be located at Pantex:

. Pantex has never processed plutonium. The Pantex Superfund site has so far apparently escaped the type of radioactive contamination found at plutonium processing sites like Rocky Flats in Colorado and Hanford in Washington.

1

. The Pantex Plant occupies an area that is a fraction of the size of other plutonium sites.

. The technologies proposed in the Plutonium Pit Disassembly and Conversion Facility are undemonstrated and unproven. It is unacceptable to have plutonium operations above the Ogallala Aquifer and only one mile from where people live and work in a vibrant agricultural producing area. The Pantex legacy already includes heavy contamination in a perched layer of groundwater less than one hundred feet above the Ogallala Aquifer. This pollution extends from under the Pantex Plant to adjacent private property and the real impacts remain unknown. The risk of any additional groundwater pollution is unacceptable in an agricultural region.

2

Thank you for this opportunity to comment.

Sincerely,

John Hirschi
State Representative

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MD058

MD058-1

Alternatives

DOE acknowledges the Senator's opposition to siting any plutonium processing facilities at Pantex. This SPD EIS analyzes the potential environmental impacts associated with implementing the proposed activities at the candidate sites. The results of these analyses, presented in Chapter 4 of Volume I and summarized in Section 2.18, would likely have minor impacts on any of those sites, including Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

MD058-2

Alternatives

Pit disassembly and conversion technologies are currently being demonstrated at LANL. This activity is described in the *Pit Disassembly and Conversion Demonstration EA* (DOE/EA-1207, August 1998), which is available on the MD Web site at <http://www.doe-md.com>.

The analyses presented in Section 4.26.3.2.2 indicate that there would be no discernible impacts on water quality from normal operation of the pit conversion and MOX facilities at Pantex. Other sections show, moreover, that the normal operation of these facilities would likely have minor impacts on human health, agriculture, and livestock: Section 4.17.1.4 and 4.17.2.4 addresses the potential radiological and hazardous chemical effects of the maximum-impact alternative on workers and the public; Appendix J.3, the potential contamination of agricultural products and livestock, and the consumption of these products by persons living within an 80-km (50-mi) radius of Pantex.

1998
Texas State Republican Party
Platform
(page 23-24)

The Party recognizes the value of alternative energy sources and supports continued private research and development of such sources; but **we oppose** the federal government using hazardous waste as an alternative energy source,

such as the processing or reprocessing of plutonium and uranium for making mixed oxide fuels in agricultural areas and above major water sources.

by: *Richard L. Geddes*
8/13/98

SCD19

SCD19-1

Alternatives

DOE acknowledges the commentor's support for private research and development of alternative energy sources. The MOX approach does not involve the use of hazardous waste as an alternative energy source. Further, the use of U.S. surplus plutonium does not involve reprocessing (reprocessing is a chemical separation of uranium, transuranic elements [including plutonium], and fission products from spent reactor fuel and the reuse of the plutonium and uranium to produce new fresh fuel). The purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors.

This SPD EIS analyzes the potential environmental impacts associated with implementing the proposed activities at the candidate sites. The results of these analyses, presented in Chapter 4 of Volume I and summarized in Section 2.18, demonstrate that the activities would likely have minor impacts at any of those sites, including Pantex. Incident-free (normal) releases of radioactivity from the proposed surplus plutonium disposition facilities to the food production chain are explained for each site in Appendix J. Current and future operations at the candidate sites should not impact the soil used for agriculture and farming in any of the regions adjacent to these sites.

TEXAS STATE REPUBLICAN PARTY PLATFORM
RICHARD L. GEDDES
PAGE 2 OF 3

furthermore, public money or public powers should not be used to fund or implement any private projects such as high-speed rail or sports stadiums.

Balanced Budget - The Party supports full disclosure of all "on" and "off" budget spending. We demand that our federal legislators vote only for balanced budgets. Social Security should be taken off budget. In case of a budget surplus it should never be used to increase spending.

Waste and Fraud in Government Contracts - The Party is opposed to waste and fraud in government contracts and recommends that the Attorney General of the United States investigate fraud and misuse of government funds in government contracts prosecuting those found to be responsible. The Party also believes that all government contracts should be awarded only on the merits of the bidders' ability to produce the quality of the product or service performed at a reasonable cost. We also support the repeal of the Davis Bacon Act. We encourage the government to follow fair business practices.

Business Subsidies - The Party urges the cessation of subsidies. We support movement toward a free market economy both domestically and internationally.

Downsizing the Federal Government - We support the downsizing of the federal government in order to reestablish states' rights guaranteed by the Tenth Amendment of the United States Constitution. We further support the abolition of federal agencies involved in activities not delegated to the federal government under the original intent of the Constitution including, but not limited to, the Environmental Protection Agency, the Department of Energy, the Department of Housing and Urban Development, the Department of Health and Human Services, the Bureau of Alcohol, Tobacco and Firearms, the Department of Education, and the position of Surgeon General. These authorities should be eliminated or, where needed, transferred to the state or local governments. We also call for the defunding and abolition of the National Endowment for the Arts.

Sunset Laws - The Party supports a mandatory Sunset Law for the state of Texas which would automatically terminate all agencies or programs if they are not reenacted by the legislature every twelve years.

Unfunded Mandates - The Party favors limited government and no new taxes. The effect of mandating services without funding is a tax increase for local government. We oppose all unfunded mandates by the federal and state governments.

Domestic Energy Industry

Support of the Domestic Energy Industry - The foundation of our National Energy Strategy must be a competitive domestic oil and gas industry. Federal tax and regulatory policies are destroying the independent sector of this industry. Regulation and rule making must be done on a cooperative, rather than an adversarial basis, preserving jobs and the economy while promoting environmental preservation. The Party encourages the U.S. Congress to (1) aggressively support a greatly expanded use of domestic natural gas as a method to reduce U.S. dependence on foreign crude oil; (2) repeal all provisions of the alternative minimum tax that treat intangible drilling costs as tax preference items; and (3) stop the promulgation of unnecessary environmental legislation or regulation that causes domestic production to be economically not feasible.

Alternative Energy Sources - The Party recognizes the value of alternative energy sources and supports continued private research and development of such sources; but we oppose the federal

government using hazardous waste as an alternative energy source, such as the processing and or reprocessing of plutonium and uranium for making mixed oxide fuels in agricultural areas and above major water sources.

Restructuring Electrical Utilities - The electric services industry in Texas should be restructured. The Party believes the state of Texas instead of the federal government should restructure the electric service industry in Texas. We support deregulation with real competition.

Restoring American Sovereignty and Leadership

Immigration - The Party acknowledges that America is a beacon of hope and a place of new beginnings and we continue to welcome legal immigrants. Because we believe that one responsibility of government is to secure our nation's borders, we support: 1) returning immigration quotas to traditional levels in practice prior to 1965 of 300,000 per year or less, 2) expeditious hearing on deporting non-violent illegal aliens held in prisons or jails, 3) reclaiming control of international borders, 4) screening immigrants for communicable diseases, including HIV, 5) the amendment of the Immigration and Naturalization Act of 1952 to grant birthright citizenship only to the newborn of citizens of the United States of America or permanent legal residents, and 6) Congressional oversight of federal agencies to follow-up over-stayed visas.

The Party opposes: 1) automatic citizenship by birth to children born to illegal aliens, 2) federally-imposed requirements on the state regarding the care of illegal aliens including the extension to illegal aliens the benefits of public education, non-emergency medical care, and welfare including Social Security and SSI payments, 3) a national tracking system for control of immigration (or any other purpose), and 4) participation in any election by illegal aliens.

International Communism - The Party supports the worldwide movement away from Communism and toward representative government based on the premise that men's and women's rights come from God and governments are established to protect these rights.

MIA's and POW's - The Party urges the President and Congress to continue all measures necessary to seek and act upon all information concerning our Missing in Action and Prisoners of War. We oppose the extension of MFN status or normalizing relations with any nation before they support a full and complete accounting for all missing American service personnel.

Middle East - The Party believes that the U.S. and Israel share a special long-standing relationship based on shared values, a mutual commitment to our republican form of government, and a strategic alliance that benefits both nations. Our foreign policy in the Middle East should reflect the special nature of this relationship through continued military and economic assistance to Israel and recognition that Jerusalem is the capital of Israel and should remain an undivided city accessible to people of all faiths. We commend the Republican Congress' resolution to move the U.S. embassy from Tel Aviv to Israel's capital, Jerusalem. We commend Israel's privatization of state-owned companies and budget cuts in order to achieve its goal of economic independence. We encourage the Republican Congress' continuing support for Prime Minister Netanyahu's government in the peace talks between Israel and the Palestinians. We oppose pressuring Israel to make concessions it believes would jeopardize its security. We support continued sanctions against Iran in response to its celebration of "Death to America Day."

U.S. Department of Energy
 Office of Fissile Materials Disposition
 P.O. Box 23786
 Washington, DC, 20026-3786

Dear Department of Energy, Office of Fissile Materials Disposition:

I do not support plutonium processing at the Pantex Plant. In the *Surplus Plutonium Disposition Draft Environmental Impact Statement*, the Department of Energy prudently decided against locating one plutonium processing facility (MOX fuel fabrication) at the Pantex Plant. For the following additional reasons, a Plutonium Pit Disassembly and Conversion facility also should not be located at Pantex:

Pantex Should Not Become the Next Rocky Flats

Pantex has never processed plutonium. The Pantex Superfund site has so far apparently escaped the type of radioactive contamination found at plutonium processing sites like Rocky Flats in Colorado and Hanford in Washington.

Risks That Are Unknown Are Too High

The Pantex Plant occupies an area that is a fraction of the size of other plutonium sites.

SIZE MATTERS: A Comparison of the Area of the Four Candidate Sites (Square Miles)			
Pantex	Savannah River Site	Idaho National Engineering Lab.	Hanford
23	309	890	560

The technologies proposed in the Plutonium Pit Disassembly and Conversion Facility are undemonstrated and unproven. It is unacceptable to have plutonium operations above the Ogallala Aquifer and only one mile from where people live and work in a vibrant agricultural producing area. The Pantex legacy already includes heavy contamination in a perched layer of groundwater less than one hundred feet above the Ogallala Aquifer. This pollution extends from under the Pantex Plant to adjacent private property and the real impacts remain unknown. The risk of any additional groundwater pollution is unacceptable in an agricultural region.

Common sense dictates that negative consequences to people and farmland from nuclear accidents are far more likely in a small, open, windy location like Pantex. The Department of Energy has acknowledged that the most visually unappealing feature of the plutonium facilities will be their smokestacks. Visual blight will be a minor inconvenience compared to the air pollutants--many of them radioactive--expected to escape into the atmosphere daily through smokestack filters. Routine air emissions of tritium, plutonium, americium, and beryllium constitute unacceptable new hazards to the Texas Panhandle.

MD107

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MD107-1

Alternatives

DOE acknowledges the commentor's opposition to siting the proposed surplus plutonium disposition facilities at Pantex. As described in Chapter 4 of Volume I and summarized in Section 2.18, potential impacts of any of the proposed activities during routine operations at any of the candidate sites would likely be minor. To avoid contamination that has occurred in the past at some DOE sites, DOE would design, build, and operate the proposed facilities in compliance with today's strict environmental, safety, and health requirements. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

MD107-2

Human Health Risk

Although Pantex is smaller in overall size in comparison with the other candidate sites, analyses in Chapter 4 of Volume I indicate that impacts of operating the pit conversion facility on health, safety, and the environment at Pantex would likely be minor (e.g., see Section 4.6).

While it is true that the pit conversion facility is the first consolidated facility for accomplishing this mission on a large scale, the processes that would be used in this facility are not entirely new. Many of these processes are in use at LANL and LLNL. In addition, DOE has recently started a pit disassembly and conversion demonstration project at LANL, where processes will be further developed and tested.

Section 4.26.3.2 analyzes impacts to the environment (including contamination to the Ogallala aquifer) due to construction and normal operation of a pit conversion facility at Pantex. There would be no discernible contamination of aquatic biota (fish) or drinking water, either from the deposition of minute quantities of airborne contaminants into small water bodies or from potential wastewater releases. Therefore, it is estimated that no measurable component of the public dose would be attributable to liquid pathways. Appendix J.3 includes an analysis of potential contamination of agricultural products and livestock and consumption of these products by persons living within an

80-km (50-mi) radius of Pantex. If the proposed surplus plutonium disposition facilities were located at Pantex, a very small incremental annual dose to the surrounding public from normal operations would result via radiological emission deposition on agricultural products (i.e., food ingestion pathway). This dose (about 0.56 person-rem/yr) would be 0.0006 percent of the dose that would be incurred annually from natural background radiation. This analysis indicates that impacts of operating the pit conversion facility on agricultural products, livestock, and human health at Pantex would likely be minor.

MD107-3

Human Health Risk

It is DOE policy to operate in compliance with all applicable air quality requirements and to protect human health and the environment. DOE takes into consideration pollution reduction techniques to minimize air releases when designing, constructing, and operating its facilities. It also considers aesthetic and scenic resources in the design, location, construction, and operation of facilities. Potential concentrations of air pollutants at Pantex for the various alternatives have been estimated, considering appropriate local meteorology and other data associated with the area. Because the releases from the pit conversion and MOX facilities would be very small (see Appendix J.3.1.4), estimates of resultant radiological health risks are small. As indicated in Section 4.17.2.4, the maximum possible dose delivered to a member of the public during normal operations of the MOX and pit conversion facilities at Pantex would be 0.077 mrem/yr, 0.02 percent of the dose that individual would receive annually from natural background radiation. The estimated dose to the public from radiological emissions (e.g., americium, tritium, and plutonium) would be 0.58 person-rem/yr which would result in an increase of 2.9×10^{-3} LCFs over the 10-year operating life of the pit conversion facility. Any new facilities that might be built would be within existing site boundaries, and would be matched aesthetically with the current plant to limit potential visual impacts.

**There is Valid, Strong Criticism of Safety
in the Storage of Plutonium at Pantex**

Since Pantex became the nation's long-term storage location for up to 20,000 plutonium pits, promises to improve safety conditions have not happened. The U.S. Government Accounting Office and the Defense Nuclear Facilities Safety Board have issued reports critical of plutonium storage safety at Pantex. Fifty million taxpayer dollars were spent on a failed plutonium pit container program (the AT-400A) and the plan to move over 10,000 pits into a safer remodeled building (Building 12-66) has also failed.

When it comes to plutonium pit storage problems, Panhandle residents are back to square one. The plutonium remains in old, unsuitable, corroding storage containers and in 35-55 year old "bunkers" that the Department of Energy promised were for "temporary" use. Plutonium that is supposed to be stored in a stable environment now sits in the bunkers--all but three without air conditioning--even as the Texas Panhandle experiences a spell of more than 40 consecutive days of 90+ degree temperatures, and more than 20 days this summer with thermometers registering 100+ degrees. If the Department of Energy cannot accomplish the job of safely storing Pantex plutonium in the most stable environment, there is no reason to accept its unsubstantiated assurances to safely process deadly plutonium powders at Pantex.

Thank you for this opportunity to comment.

Sincerely:

August 14/1998

To Whom it may concern!

*Advances in technology versus
regression of Wisdom provides the signal to
emphasize Wisdom hold fast on what we
have of technology.
When balanced restart technology
Sincerely,*

*Tadeo Spike Zywiski
213 Avant Ave
San Antonio TX 78210*

4

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MD107

MD107-4

DOE Policy

DOE acknowledges the commentor's concern regarding the storage of plutonium pits at Pantex. DOE is committed to the safe, secure storage of pits and is evaluating options for upgrades to Pantex Zone 4 facilities to address plutonium storage requirements. DOE has addressed some of the commentor's concerns in an environmental review concerning the repackaging of Pantex pits into a more robust container. This evaluation is documented in the *Supplement Analysis for: Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components—AL-R8 Sealed Insert Container* (August 1998). This document is on the MD Web site at <http://www.doe-md.com>. Based on this supplement analysis, the decision was made to repackage pits at Pantex into the AL-R8 sealed insert container and to discontinue plans to repackage pits into the AT-400A container.

Worker exposure estimates attributable to the decision to repackage pits in AL-R8 sealed insert containers were incorporated in the revised Section 2.18 and Appendix L.5.1.

The issues raised in this comment relate to pit storage decisions made in the *Storage and Disposition PEIS* and the *Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components* (DOE/EIS-0225, November 1996). DOE is considering leaving the repackaged surplus pits in Zone 4 at Pantex for long-term storage. An appropriate environmental review will be conducted when the specific proposal for this change has been developed; addressing, for example, whether additional magazines need to be air-conditioned. The analysis in this SPD EIS assumes that the surplus pits are stored in Zone 12 in accordance with the ROD for the *Storage and Disposition PEIS*.

MD107-5

Other

DOE acknowledges the commentor's concern that technology advances must be met with caution.

THE METAL TRADES COUNCIL OF AMARILLO, TEXAS AND VICINITY
RONALD W. ZERM
PAGE 1 OF 3



THE METAL TRADES COUNCIL
of
Amarillo, Texas and Vicinity
A.F. of L. - C.I.O.
AMARILLO, TEXAS

DOE Office of Fissile Materials Disposition
c/o SPD EIS
P.O. Box 23786
Washington, D.C. 20026-3786

SUBJECT: SURPLUS PLUTONIUM DISPOSITON DRAFT
EIS

MD186

THE METAL TRADES COUNCIL OF AMARILLO, TEXAS AND VICINITY
RONALD W. ZERM
PAGE 2 OF 3

As a Metal Trades Union Safety Officer, I would like to comment on this proposed EIS. Having both mechanical and safety backgrounds, I feel I can comment both on the proposed processes and the safety envelope within which these processes are to function.

In commenting on the processes, I would first comment on the Mixed Oxide Fuel Facility. The MOX process is, primarily, a mechanical process accomplished in glove boxes. Pantex already possesses parallel processes which are similarly found in a MOX plant. We blend materials, press these materials into pellets, weigh them, perform non-destructive inspection on them, heat (or scinter) them, and assemble the final product. We have been performing these processes for over 45 years. And we are actively performing these same processes today. Having had the opportunity to visit actual MOX plants in England and France, I can state with confidence that Pantex can perform this part of the EIS mission in an unparalleled manner.

In addressing the Pit Disassembly and Conversion Facility, it is important to keep in mind that the Aries System is a mechanical disassembly system. I have toured the Aries

system at Los Alamos and have seen no potential problems with its being sited here at Pantex. Pantex has, as I have already stated above, safely handled the items, slated for disassembly and conversion, for over 45 years and we currently store over 10,000 of them.

A major factor in siting these missions at Pantex is a well-trained and qualified Union Workforce, which is second to none in the country. This workforce actively participates in such endeavors as Voluntary Protection Program, Integrated Safety Management, Seamless Safety - 21 Program, and Enhanced Workplanning. All pro-active programs and all needed if the DOE intends to follow Former Secretary of Energy Pena's memo on Environment, Safety and Health of April 14, 1998. In addition, the one program which Pantex has which sets it apart from all other plants is the Metal Trades Union Safety Officer Program, which is staffed by three full-time Union Safety Officers. No other plant in the nation has anything comparable to this program and it provides the crucial and necessary check and balance needed by the DOE to maintain and further ES&H credibility with the nation.

Siting these two missions at Pantex is the most logical choice. Pantex is an "active" site, observing strict operational protocols. The safety infrastructure at Pantex has not been compromised "as at other sites" due to their "primary" mission being environmental remediation/restoration. It is of extreme importance to place these activities at a site where an **established** and **successful** Conduct of Operations / Formality of Operations philosophy is already in existence and utilized day to day.

MD186

MD186-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion and MOX facilities at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

THE METAL TRADES COUNCIL OF AMARILLO, TEXAS AND VICINITY
RONALD W. ZERM
PAGE 3 OF 3

The DOE Pantex Plant should be the choice for these future PU EIS missions.

Sincerely,
Ronald W. Zerm
Metal Trades Union Safety Officer

MD186

I support Pantex.

| 1

WD017

WD017-1

Alternatives

DOE acknowledges the commentor's support for expanded missions at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

UNDERWOOD, WILSON, BERRY, STEIN & JOHNSON, P.C.

JAMES W. WESTER

PAGE 1 OF 1

JEROME W. JOHNSON
JAMES A. BEESLMAN
R. T. MANNING
CONRAD DEAN
A. W. SHIPLEY III
GERALD G. BYRNE
MICHAEL M. LOTTEN
THOMAS R. DIXON, JR.
KELLY STINEBAUGH
SHARON L. WHITE
PATRICK B. MOSELEY
T. ALAN PROSSER
JAMES W. WESTER

UNDERWOOD, WILSON, BERRY, STEIN & JOHNSON, P.C.

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WRITER'S DIRECT EMAIL:
jww@underwood.com

August 12, 1998

WRITER'S DIRECT DIAL:
(806) 378-0354

U.S. Department of Energy
Office of Fissile Materials Disposition
MD-4 Forrestal Building
1000 Independence Avenue, SW
Washington, D.C. 20585

VIA FAX ONLY
1-800-820-5156

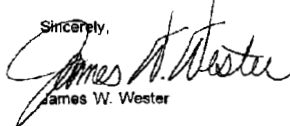
Dear Ladies and Gentlemen:

As a resident of Amarillo, Texas, I encourage you to choose the Amarillo Pantex plant as the location for the disassembly and conversion of nuclear weapons plutonium components.

While I was unable to attend your hearings in Amarillo on Tuesday, August 11, 1998, I wanted to take this opportunity to encourage you to select the Amarillo Pantex plant. I presume that you have information concerning the important role that Pantex plays in the Amarillo community. I hope you are also aware of the appreciation and support of local residents. Further, Pantex's track record in the handling of plutonium pits speaks for itself and makes it the natural and best choice for the project.

In conclusion, I would again urge you to select the Amarillo Pantex plant for the disassembly and conversion of nuclear weapons plutonium components.

Sincerely,



James W. Wester

JWW/tb

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FD242

FD242-1

Alternatives

DOE acknowledges the commentator's support for siting the pit conversion facility at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

3224 Janet, #106
Amarillo, TX 79109
August 11, 1998

United States Department of Energy
Washington, D.C.

Re: PIT DISASSEMBLY AND CONVERSION FACILITY

Dear Sirs:

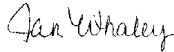
I would like to take this opportunity to express my support for the Pit Disassembly and Conversion Facility to be located at the Pantex Plant in Amarillo.

As a taxpayer, I believe it only makes sense to locate the facility in close proximity to the pits. To me, it would be total nonsense to transport the pits to Savannah River when there is a facility here that could competently handle the project. Not only does it make economical sense, but from a safety standpoint it only makes sense to leave the pits in one location.

I believe the entire production and maintenance workforce (labor and management), which includes a world class security/protective force, is second to none. In my opinion, Pantexans have demonstrated that we are, without a doubt, the best in the entire DOE complex. Pantex operates within a stringent safety envelope, and has a safety record which speaks for itself. We currently house and store more than 10,000 plutonium pits and we have safely handled and worked with pits and other hazardous items for more than 45 years.

When you weigh all of the above factors and add to it the tremendous community support offered the Pantex Plant, I see no other logical conclusion. I trust that you will come to the same conclusion.

Sincerely,



Jan Whaley

TXD19

TXD19-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at Pantex. Potential impacts from transportation of pits would likely be minor if Pantex were chosen as the site for pit disassembly and conversion because pits are currently stored there, while potential impacts from transportation of plutonium dioxide would likely be minor if SRS were chosen because SRS is the preferred location for the MOX facility. Transportation impacts are summarized in Chapter 4 of Volume I and Appendix L. As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures or vehicle emissions are expected. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses (including analyses of transportation risks), technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

Yes, my name is Carolyn Wheeler. I live in Whitedeer, Texas, close to Pantex and I am very interested in seeing the work come to Pantex rather than Savannah River. I believe that Pantex could do it very safely and very efficiently. Thank you very much.

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PD017

PD017-1

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

WOLFE, BILL K.
PAGE 1 OF 1

August 10, 1998

U. S. Department of Energy
Office of Fissile Materials Disposition
MD-4 Forrestal Building
1000 Independence Avenue, SW
Washington, D.C. 20585

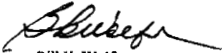
I support the disassembly and conversion of nuclear weapons plutonium pits at the Amarillo Pantex plant.

The work force of Amarillo and the Texas Panhandle has exceptionally good work ethics. The productivity and safety records of our people is outstanding.

The fact that there is no major contamination at the Pantex plant speaks very highly of both the plant management and its work force. There is no reason to believe that conversion of the pits would cause any additional contamination here and every reason to believe it would make a bad situation worse at any of the other possible locations.

Most people in and around Amarillo also support Pantex and its missions completely.

Sincerely,



Bill K. Wolfe
7805 Lindsey Lane
Amarillo, Tx. 79121
Fax 806 358-9233

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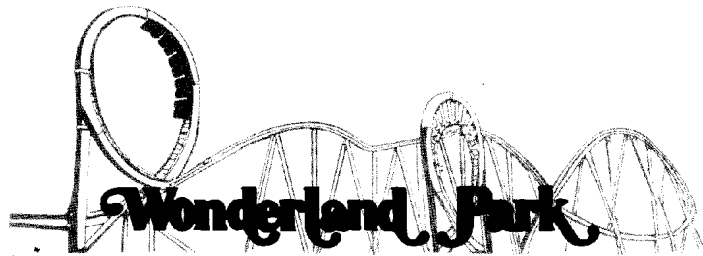
FD058

FD058-1

Alternatives

DOE acknowledges the commentor's support for siting the pit conversion facility at Pantex. This SPD EIS analyzes impacts of the environment from construction and normal operation of the pit conversion facility. This facility would be located in a new building at either Pantex or SRS and, regardless of the site location, would generate the same level of contamination and require the same amount of D&D. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

WONDERLAND AMUSEMENTS, INC
PAUL D. BORCHARDT
PAGE 1 OF 1



11 August 1998

U.S. Department of Energy
Office of Fissile Material Disposition
MD-4 Forrestal Bldg.
1000 Independence Ave. SW
Washington, D.C. 20585

Ladies & Gentlemen:

As President and General Manager of Wonderland Amusements, Inc., I wish to express my support for the disassembly and conversion of nuclear weapon "pits" here in Amarillo at the Pantex Plant.

We employ job-entry youth on a seasonal basis and have over 47 years experience with their work ethics and performance. As future employees to our service and manufacturing industries, we feel that this area has an excellent workforce that is responsible, sensible, ethically sound, and desirous to perform work that is necessary and beneficial. I think this workforce has been beneficial to Pantex as the past performance and safety record of the plant are very good.

I feel that we have the best location to do the necessary job. Why not disassemble, store, and re-manufacture in one location, rather than transport and potentially expose a greater area of our country? Our area has been a source of energy for many years. As new forms become available, we would like to continue to be a source for the future.

Just as I am continually involved in safety, I am aware and feel that the employees of Pantex want the same safe place to work and live as do our area residents.

Respectfully,

Paul D. Borchardt

PO. BOX 2325 • AMARILLO, TEXAS 79105-2325
IN THOMPSON PARK • HWY. 287 N. • (806) 383-0832 • FAX 383-8737
<http://www.wonderlandpark.com/>

TXD46

TXD46-1

Alternatives

DOE acknowledges the commentator's support for siting the pit conversion facility at Pantex. Decisions on the surplus plutonium disposition program at Pantex will be based on environmental analyses (including analyses of transportation), technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

