

PUBLIC SAFETY RESOURCES AGENCY, PORTLAND, OR,
W. P. MEAD
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W. P. Mead, Director
Public Safety Resources Agency
P. O. Box 724
Portland, OR 97207-0724

June 6, 1996

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

RE: Personal comments on "Programmatic Environmental Impact Statement
on Storage and Disposition of Weapons Usable Fissile Materials."

I am writing to voice concerns I have after being informed that the
above PEIS includes burning weapons-grade product in reactors as a
disposal option. I am faxing this document to your office in order to
meet the filing deadline and will mail a printed copy.

I have not reviewed the PEIS, but would like to include my comments,
as follow, into the official record. Due to the nature and scope of
the issues involved, I also request that the Congressional Record of
the Subcommittee Hearing, cited below, be included as an addendum to
this comment document. Specifically, as the Record's testimony may be
relevant to any proposal involving a change in the current status of
the WPPSS #1 reactor facilities at the Hanford Reservation.

I also would take this opportunity to request (1) that a copy of the
above PEIS document series be sent to me at the above address, and (2)
that I be included on the mailing list to receive all future documents
relating to this project.

If you review the Department's records, you will see that in the
1980's I was a consultant to several health and state agencies about
several projects at the Hanford Reservation. In that capacity I
testified before state legislative committees and working groups,
advised public health departments, provided research services for
citizens' forums and intervenors, and testified before a Congressional
Sub-Committee about converting the WPPSS-1 nuclear generating plant.

While I agree with the Encapsulation option for short term storage,
followed by Deep Storage disposal once the technology has been proven,
I very strongly object to "processing" this new inventory of fissile
material in power reactors because of the current lack of technical
knowledge, the history of poor operational safety in this area of
nuclear energy, and the creation of additional low-level and high-
level waste streams that such a project would incur. 

08 03 01 Comment Number 1

The Department of Energy acknowledges the commentor's opposition to the
Reactor Alternatives. However, NEPA requires that DOE look at all
reasonable alternatives and, therefore, reactor burning must be considered.
Decisions on the disposition of weapons-usable fissile materials will be based
upon environmental analyses, technical and economic studies, national policy
considerations, and public input.

1/08.03.01

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Several years ago I was asked to testify before a Congressional Subcommittee about a proposal to convert the WPPSS Unit #1 at the Hanford Reservation [1/]. That project was a poorly-conceived plan to salvage the canceled WPPSS #1 power generator at taxpayer's and ratepayer's expense by taking experimental theory and scaling it up as a full-scale operational HCU tested despite the Department's own peer review finding of its own in-house technical feasibility studies that warned of "...an outstanding safety issue, the problem of in-vessel re-criticality." [2/].

The idea of burning a MOX fuel mixture, while certainly achievable, is not advisable for several reasons. Although these reasons are valid regardless of where the project is sited, a siting of the reactor option at the Hanford Reservation would pose additional hardship on the population and environment of the Northwest:

1. In order to fabricate MOX fuel, the fissile product(s) must be transformed from their current states, formulated to the desired level of enrichment, stabilized and then fabricated into new fuel assemblies. This process alone increases the probabilities of adding to the current MUF inventory and poses security risks during several stages of processing.

2. Manufacture of MOX fuel assemblies also will produce new waste streams that will increase the quantity of wastes by several times the volume currently associated with these same inventories in their present states. Although much of this waste will be "low level," these processes will necessarily also generate a new volume of TRU wastes, with the special handling required by those TRU waste streams. Our waste management efforts should be focused on reducing the current inventory of hazardous and/or radiologic wastes; not on a search on how to create new wastes.

3. In the past, projects such as these have depended on the use of new reactors or the modification of existing facilities to burn the new fuels. The time needed to complete construction of new facilities, or the modification of an existing plant, would be much greater than the time needed to construct an encapsulation facility and begin the vitrification/encapsulation process. If the United States sincerely wants to remove plutonium from the active SNM inventory, then the Encapsulation alternative would accomplish this goal much faster and at a greatly-reduced cost than would the reactor option.

4. Cost, of course, is yet another factor that must be considered when deciding the disposal options. The MOX-fueled reactor plan would undoubtedly require an outlay of several billion dollars to achieve the goals of even a mediocre "burning" option. In my experience, based on several years of research, the Department has never completed a significant project of similar scale within the timeline and budget estimates stated in its' studies, nor those specified in contracts with its' vendors. 

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06 01 08 Comment Number 2

The environmental impact of the MOX fuel waste streams is presented in Chapter 4 and Appendix H of this PEIS.

08 03 01 Comment Number 3

The Department of Energy acknowledges the commentor's support for the Immobilization Alternative. Decisions on disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

07 01 00 Comment Number 4

Cost data, along with technical and schedule data, was provided in a Technical Summary Report for disposition beginning in late July 1996. This information will be integrated into DOE's decisionmaking process.

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Comment Number 5

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Comment noted.

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5. Transportation issues also must be examined on several levels: First, based on the "per-tonne-mile" costs for shipping the MOX components to the fabrication facility, and then shipping the assemblies to the reactor; and then at a greatly-increased "per-tonne-mile" costs for transporting the irradiated fuel assemblies from the reactor to a disposal facility -- assuming that such a facility exists by the time the reactor has been built.

6. Speaking of disposal facilities, ten years ago we had more than 70,000 Metric Tonnes of irradiated fuel assemblies that the Department wanted to bury at Hanford's proposed MWIP Repository. Reactor physics being what they are, it is reasonably safe to assume that during the past ten years many of these same reactors continued to generate waste for which the Department still does not have a home. We should clean up this existing lethal legacy before constructing a new plant to generate even more waste.

The argument can be made that once the MOX-fuel assemblies have been irradiated in a reactor, that the plutonium content is much safer from terrorists than in its present form. This is only marginally correct due to the dangers associated with separating the SM from the fission products. It is my belief that the additional steps needed to change the SM from its' existing form through the final disposal (hopefully in a dry burial vault somewhere within Hanford's Battleground Mountain above the existing water table) is much more hazardous, costly and time-consuming than is justified.

I sense the re-emergence of a dangerous pattern in this project as it has been described to me. Many of us mistakenly believed that when the Department ceased its major production-oriented operations at the Hanford Reservation that its future efforts would focus on the remediation of the reservation's contaminated sites.

Instead, this proposal seems to be a replay of past efforts to salvage Hanford's reactor operations infrastructure at the expense of the public's health, wealth and safety:

1. As of January 1996, Hanford's TRIDEC Infrastructure organization still wanted to convert the abandoned WPPSS-1 Power Reactor to a tritium production reactor. This proposal was the subject of the 1986 Congressional Subcommittee hearing cited above.

2. As of the present date, many of these same players have dropped the latest WPPSS-1 conversion plan in favor of using the FFTF as a tritium production reactor.

The above instances are cited only as examples of the continuing use of the local industrial/business communities in the Tri-Cities area to keep reactors operating at the Hanford Reservation. A far better option would be to channel these support efforts from existing and/or new reactor operations and to the immediate decontamination of the Hanford Reservation. *Q*

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01 02 00 Comment noted. Comment Number 6

08 03 01 Comment Number 7

The Department of Energy acknowledges the commentor's support for the Immobilization Alternative. Decisions on disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

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The Department should concentrate on rebuilding its image and increase its level of public trust instead of pursuing the reactor option. Any attempt to use the reactor option without first demonstrating a "good faith" effort to dispose of the current wastes at Hanford is morally indefensible and would call attention to the Department's 50-year history of having a "business as usual" mindset regardless of the public's wishes.

Ten years ago Michael J. Lawrence, USDOE's Richland Operations Office Manager bragged about the amount of high level tank wastes that had been condensed during 1984. As I pointed out in my rebuttal (3/1), that entire effort had reduced the Reservation's volume by less than the amount produced by a single day's operation of the PUREX plant, and that figure only accounted for high level liquid wastes, thus ignoring the other waste streams generated by the PUREX plant.

This mindset intensified during the 1980's, and we in the Northwest vividly recall several of the Hanford Reservation's more infamous projects:

1. The unnecessary restart of the PUREX plant in 1983 to process target fuel assemblies that really had never been needed for national defense purposes;
2. The \$200 million dollar "Head Shed" modification project to enable the PUREX Plant to reprocess fuel assemblies from civilian power reactors;
3. Hanford's failure to meet INPO reactor operating standards;
4. USDOE's on-going refusal to comply with NRC safety regulations;
5. The \$70 million dollar expenditure to retrofit the N-Reactor's safety systems only after the Chernobyl-4 Reactor explosion;
6. The Department's attempt to violate the NPT by converting the WPPSS-1 reactor from a commercial civilian power reactor to a Department-owned tritium production reactor;
7. The adoption of "ALARA" radiation dose "goals" for occupational exposures instead meeting the ICRP's established dose limits;
8. The insane desire to continue FRFP operations when all reason dictates its' decommissioning, not its' modification.

SWM is not a ploything. It is time to isolate this material from the environment without further delay. Encapsulate it and then bury it without first irradiating it.

Sincerely,

W.P. Mead
W. P. MEAD

7/08.03.01

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Cited References:

(1/1) "Potential Conversion of WPPSS 1 Commercial Nuclear Powerplant to a Production Reactor." Oversight Hearing before the Subcommittee on General Oversight and Investigations of the Committee on Interior and Insular Affairs, House of Representatives, 100th Congress, 1st Session; held at Portland, Oregon, 12/07/1986; Serial No. 100-42, U.S. Government Printing Office, Washington, D.C., 1986.

(2/1) Ibid., page 63.

(3/1) "1984 Hanford Reservation Waste Generation Abstract." Public Safety Resources Agency, Portland, OR, 1986. 

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Comment Form

These comments apply to the following document:

☒ Storage and Disposition Draft PEIS

NAME: (Optional) William C. Rask
ADDRESS: 10295 W. Warren Ave. Lakewood, CO 80227
TELEPHONE: (303) 988-9651

The following comments are in regard to the long-term storage of plutonium as discussed in the Storage and Disposition of Weapons-Usable Fissile Materials Draft PEIS, dated February 1996.

Introduction

"Surplus and non-surplus plutonium must be packaged and stored in a manner that ensures material control and accountability, safeguards and security, as well as public and worker safety for at least 50 years until the material is permanently disposed of -- i.e., 'The Stored Weapons Standard.' In placing the plutonium into such a storage configuration, the Department further desires to implement the President's Nonproliferation and Export Control Policy in a safe, reliable, cost-effective, technically feasible, and timely manner.

The Department has made significant progress toward a materials storage Record of Decision considering the referenced goals, however the options currently under consideration by the Department in the Material Disposition Program (MD) encompass only renovation of existing facilities and/or construction of new facilities at DOE sites thereby limiting options that provide for increased safety, timeliness, and cost effectiveness with less environmental impact. Furthermore the Department has limited itself by considering Storage to be only a domestic issue to be decided by the Secretary of Energy while Disposition is considered an international issue to be decided by a larger audience -- Joint Chiefs, etc.

The Concern

The relatively simple concept for interim storage of plutonium in minimum missile silos that has significant political (international), cost, materials control and accountability, safety, and environmental impact advantages over the current options should be considered by the Department. This option makes use of existing facilities already designed and constructed for secure storage of plutonium under the most extreme conditions and the supporting infrastructure which is currently providing safety and security assurance for U.S. strategic weapons and associated launch systems.

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01 04 00 Comment Number 1

The Department of Energy utilized a screening process to select the alternatives which were analyzed in the PEIS. Safety, timelines, cost, and environmental impacts were factors considered in the screening process and continue to be considered in DOE's decisionmaking process.

01 00 00 Comment Number 2

Both storage and disposition of weapons-usable fissile materials are important domestic and international issues. Decisions made in the United States can influence decisions in Russia, and possibly other foreign nations, and should result in international progress and cooperation to reduce the global nuclear danger.

14 00 00 Comment Number 3

The use of existing facilities at non-DOE sites for storage was considered but eliminated in the screening process. The reasons for the elimination include cost, environmental, safety, and health concerns, and public and institutional acceptance. In the case of a Department of Defense (DoD) site, the additional costs and regulatory requirements for support facilities such as radioactive materials analytical laboratories, radioactive waste treatment, and nuclear material processing facilities associated with long-term storage could be very high. Furthermore, the public and other Government agencies would express concern over creating another DOE nuclear site when several are being phased out.

Discussion

Utilizing minuteman missile silos for storage of plutonium could be perceived as creating "new" plutonium sites. However, these missile silos have been storing plutonium for almost 30 years in a form and under conditions which pose a much greater risk to the public and workers than what is proposed herein. In fact, this concept would reduce the overall risk to the workers and public, eliminating plutonium sites by consolidating plutonium from several existing DOE sites.

With regard to the direct support facilities needed for packaging, disassembly, material analysis, repackaging, and waste management, they are not required under this concept. The Department's proposed Primary Containment Vessels (PCV) could be placed within a third containment/shipping vessel that could be fully instrumented with continuous-remote monitoring -- any detected "inner" problem would cause that vessel to be removed and sent to a processing facility (LANL, for example). In principle this operation would be similar to any needed corrective or maintenance items required for the missiles and the respective nuclear packages today. A two part surveillance program could be implemented that would enhance the Department's knowledge of long-term storage, complementing missile silo storage that could include: 1) a Storage Reliability Evaluation Program and 2) a Shelf-Life Monitoring Program, similar to existing pit surveillance programs.

Utilizing minuteman missile silos for storage of plutonium could be considered as a concept with increased risk since metal and oxide as well as "contained" pits would be stored. Plutonium in pits exist as a metal form, sealed within an inert environment, and packaged in specially designed containers that ensure a very low probability of breach, metal oxidation, and dispersion of oxidation products. Metal pieces and ingots, packaged to the Department's new storage/packaging standard represents a similar packaging configuration with minimal risk similar to that of the pits. The issue is with oxides and their potential dispersibility in various accident scenarios. To mitigate this problem the Department could improve upon the packaging system or simply stabilize the material form to one that is not dispersible. Non-dispersible forms of oxide can in fact be produced through processing that could be at least as simple as the existing proposed oxide stabilization-calcination process without any detriment to proposed disposition alternatives. The Department appears to erroneously assume plutonium oxide is always dispersible from past practices of weapon production processing versus alternatives available for long-term storage.

Utilizing the silos for storage of plutonium would enhance transparency of plutonium storage and operations for purposes of nonproliferation assurance and compliance as well as compliance with nuclear arms reduction and control requirements established by the START treaties (not in DOE's backyard). Not only are the existing silos located in remote and open areas and readily observable through satellite networks, but they could be instrumented with safeguard systems similar to those already developed by SNLA for potential use in dismantlement agreements with Russia to enhance a regime of reciprocal inspections. The Department with interagency coordination could implement this concept in concert with or in addition to the present treaties thereby enhancing the United States' credibility and flexibility in negotiations on bilateral or multilateral nonproliferation of weapons-usable fissile material inventories. Dedicated plutonium storage facilities separate from existing Department sites would provide a level of safeguards and security and degree of nonproliferation assurance not reasonably achieved with existing or proposed facilities at DOE sites.

The capability to contain plutonium within a missile silo under the most adverse conditions has been demonstrated both by full scale proof of principle testing and severe accidents which have occurred within active missile silos. As a matter of comparison, Rocky Flats' most natural phenomena resistant facility, Building 371, is designed to about 1/2 Gs and is considered "good," while minuteman missile silos are designed to withstand forces greater than 100 Gs.

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RASK, WILLIAM C., LAKEWOOD, CO
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Safeguards requirements could be satisfied through an "item" control and accountability system. This would require a 100% inspection and verification of the plutonium form and quantity that is loaded into each PCV and vessel. In addition to standard Department safeguards, surplus plutonium could be inspected and verified by the Department and IAEA, and/or Russia through a bilateral or trilateral agreement.

Storage of plutonium in minuteman silos should be licensed by the NRC. Independent regulatory oversight of these facilities with clear and definitive conditions and requirements will reassure the stakeholders and state governments that the plutonium is not a significant risk to the workers and the communities or the environment.

Difficulty has been experienced in the design and construction of the new storage facility in Russia - the cost effectiveness and implementation could be greatly expedited under the missile silo concept if utilized in Russia also - a significant improvement for the timeliness of nonproliferation. The same benefits that accrue to the Department and the U.S. would also be realized by the Russian utilization of their similar assets, thus bettering our relative positions in environmental safety and nonproliferation.

The Environmental Impact

Potential impacts to cultural and paleontological resources are eliminated since there is no ground disturbance for this concept, an improvement is compared to the three proposed alternatives (TPA). Again impacts to air quality would be less than the TPA since construction would be limited to modifications within the silos. There would be negligible impacts to community services similar to those of the TPA. There would be no impacts to land use nor any adverse visual resource impact with this concept. Water resource requirements for this concept would be less than the TPA. The potential for environmental justice impacts would be reduced.

Employment and income would generally remain stable in the storage locations with a small increase during the modification activities. Increases could be expected from international inspection and verification activities. DOE sites could expedite the respective cleanup missions which could impact required technical qualifications and worker skills.

The key environmental resource discriminators and issues of public concern are biological resources, waste management, public and occupational health and safety, and transportation. For biological resources and waste management the missile silo concept would have no or negligible impacts. In terms of public and occupational health and safety, the silos offer a far superior facility to any modification or new facility considered by the TPA. Transportation impacts would be similar to that of the proposed Consolidation and Co-location Alternatives.

Technical Description

A minuteman silo is basically a hardened concrete structure extending approximately 80-feet underground with a 12-foot diameter steel tube extending from the top to the bottom of the structure. At the top of the concrete structure is a circular room approximately 28-feet in diameter and 22-feet high. The missile and warheads were housed within the steel launch tube. The on-site launch support and security systems were housed on shock isolation tables in the open bay surrounding the missile tube.

The concrete structure, missile doors and support systems are designed and constructed to survive detonation of a nuclear weapon in very close proximity to the silo and permit subsequent deployment of the weapons system. The resultant shock from the nearby detonation of a nuclear

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weapon would subject the silo structure to violent ground motions (and atmospheric over pressure) far exceeding those anticipated from any conceivable earthquake or other natural event.

A high degree of access security is inherent in the silo design and is assumed by the Air Force SWA1 teams that provide physical security for the active missile fields. Thus, the basic structure of the plutonium missile silos and the existing AF security operations provides a level of physical security and structural integrity and safety that is not reasonably achievable in any new or existing DOE storage vault(s). In addition, all of the missile silos are located in open areas that permit a degree of access transparency for demonstration of compliance with nonproliferation agreements and commitments that is also not available or readily achievable on existing DOE sites.

In addition to the added reduction of active missile silos, further consideration should be given to the strategic benefits of storing the material in silos that are in the same field of silos that will continue to be operational in the national defense. Future technological enhancements to protect our ability for retaliatory strikes will therefore benefit the protection for the plutonium storage silos also.

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In concept the missile silos would be modified for the storage of plutonium similar to LANL's vertical tube storage concept proposed for Rocky Flats and Russia. The primary containment vessels (PCV) could be stored within an additional stainless steel vessel to facilitate handling/transportation and to provide a third inerted containment barrier. Several of these vessels could be stacked in the multiple vertical storage racks of the silo. The storage racks could be spaced and constructed for engineered criticality control and passive cooling. With a PCV loading process and procedures for metal and oxide, for example, that would ensure a 4.5 Kg per PCV, the authorized limit for a PCV, each silo could safely store up to 4.4 MT of plutonium.

The Department in the final decision process is to consider implementation in a cost-effective and timely manner. Preliminary cost estimates provided to MD for long-term interim storage facilities are between \$500M and \$1B with total life cycle costs at over \$4B. Total life cycle costs utilizing mission silos has been reviewed and preliminary estimated by industry experts to be 1/4 to 1/3 of that amount. Greater cost-effective concepts should be seriously evaluated. Rocky Flats proposes to construct a new passive storage facility for about \$70M with total life cycle costs of \$660M (to 2015). In comparison, four missile silos could be modified for about \$35M to contain all 12.9MT of the plutonium presently stored at the Site with a total life cycle cost for 20 years at \$150M to \$250M, as estimated by industry experts.

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REYNOLDS, ROBERT, VICTOR, ID
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Comment ID: P0023
Date Received: April 18, 1996
Name: Robert Reynolds
Address: Victor, ID

Transcription:

I want to voice my opposition to anyone bringing any nuclear waste into the State of Idaho. | 1/08.03.01
That's all I got to say.

08 03 01

Comment Number 1

The Department of Energy acknowledges the commentor's opposition to new missions at INEL. Decisions on the storage and disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

P-023

RICHARDS, MATT, SAN DIEGO, CA
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March 29, 1996

Mr. J. David Nulton
Director, NEPA Compliance & Outreach
U.S. Department of Energy
Office of Fissile Materials Disposition
P.O. Box 23786
Washington, DC 20026-3786

Matt Richards
10383 Carmelito Canyon
San Diego, CA 92131

SUBJECT: Review of DOE/EIS-0229-D, "Storage and Disposition of Weapons-Usable Fissile
Materials Draft Programmatic Environmental Impact Statement"

Dear Mr. Nulton:

I have reviewed the subject draft PEIS (Ref. 1). My comments are categorized into the
following areas:

Disposition Schedule: Schedule for demonstration of disposition technology and completion of
disposition.

Final Waste Form Characteristics: Suitability of the final waste form for permanent disposal in
terms of long-term safeguards requirements, long-term radionuclide containment, and potential for
underground criticality.

Miscellaneous Comments: Issues associated with using borosilicate glass as a vitrification option,
viability of using electrometallurgical treatment (pyroprocessing) as an immobilization option, and
a recommendation for evaluating a coated-particle waste form for Pu immobilization.

Please note that I am submitting these comments as an individual. I have also provided these
comments to General Atomics (GA). GA may choose to include my comments in a separate
submission to DOE.

I. Disposition Schedule

Before the draft PEIS (Ref. 1) was prepared, all potential options for Pu disposition were
screened using criteria given in DOE/MD-002, "Summary Report of the Screening Process" (Ref. 2).
The Ref. 2 criteria are similar to those used by the National Academy of Sciences (NAS) in its 1994
report (Ref. 3). One of the criteria, timeliness, was initially defined by DOE as follows:

"The technology concept should be demonstrated within ~20 years and disposition
should be completed within ~50 years."

As stated, this criterion would have allowed for development of advanced, deep-burn reactor

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RICHARDS, MATT, SAN DIEGO, CA
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07 00 00 **Comment Number 1**

The data in the referenced figures were presented as received; however, some respondents reacted to the timeliness statement that "The technology concept should be demonstrated within approximately 20 years and disposition should be completed within approximately 50 years." These respondents ranked our stated definition of timeliness low indicating that 20 and 50 years was too long and it was important for DOE to start and finish earlier. Also, public comments received through questionnaires, including comments to this document, continue to support the importance of starting disposition within approximately 10 years and completing within approximately 30 years.

07 03 00 **Comment Number 2**

Comment noted. The U.S./Russian approaches need not necessarily be identical.

Mr. J. David Nulton
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technologies for Pu disposition, including the PC-MHR. Of equal significance, this criterion would have allowed for a single, -IGW, plant (PC-MHR or LWR) to complete the disposition mission (~50 mt of surplus weapons-grade Pu) over the expected operating lifetime of the plant. In other words, the potential environmental impacts would be limited to those for a single plant.

In Ref. 2, the DOE changed the timeliness criterion to "require that the disposition be able to start within about a decade and be able to be completed within about three decades." The reason stated by DOE for adopting this more urgent schedule was input from the public and stakeholders "relating to the urgency of taking action stemming from the 'clear and present danger' associated with these materials." However, this reasoning is not supported by the DOE's own questionnaire data reported in Appendix A of Ref. 2 (see Figs. 1 and 2, taken from Ref. 2). From Fig. 1, five of the nine criteria received higher rankings of "very important" than given to timeliness. From Fig. 2, the ranking of timeliness relative to the other criteria indicates, clearly that the questionnaire respondents viewed timeliness as being of secondary importance.

Other factors also do not justify forcing the Pu disposition mission to a more urgent schedule. According to the draft PEIS, the DOE also proposes to provide a long-term, 50-year storage system for Pu and HEU declared to be non-surplus. The non-surplus material is categorized into naval nuclear fuel, strategic reserves, material for weapons R&D, and programmatic materials. The DOE acknowledges that some of the non-surplus material could be classified as surplus material in the future. During the disposition mission, it is likely that surplus and non-surplus material would be stored and secured at common locations. For Pu being stored and secured at a given location, it would be absurd to determine that material classified as surplus poses a "clear and present danger," while material classified as non-surplus does not pose a similar risk, particularly when the classification boundary could change over time. The "clear and present danger" argument does not justify adoption of the more urgent disposition schedule, since fissile material of potentially unknown classification (surplus or non-surplus) will be in storage for time periods exceeding the more urgent disposition schedule.

The DOE acknowledges that the risks for theft and diversion of fissile material are greater in Russia than in the U.S., because of the less stable political climate in Russia. Perhaps the justification for the more urgent schedule is to encourage the Russians to adopt a similarly urgent schedule, thereby reducing the risks of theft and diversion. While plausible, this strategy is not consistent with desires expressed by the Russians. The Russians have actively encouraged development of the PC-MHR for Pu disposition. As part of a private, cost-sharing initiative with General Atomics and Framatome, Russian engineers and scientists are presently working on the PC-MHR design. At the recent Third International Policy Forum: Management & Disposition of Nuclear Weapons Materials (Landowne, Virginia, March 19-22, 1996) high-level Russian representatives confirmed their strong support for continuing development of the PC-MHR. Despite growing international support, the DOE has actively discouraged this private initiative. From Fig. 2, it is interesting to note that the criterion "Influence on Russia and Other Countries" was rated as being of somewhat greater importance than timeliness.

Finally, in its 1995 report on reactor-related options for Pu disposition (Ref. 4), the NAS viewed the more urgent schedule as a "very severe constraint" that did not provide a useful basis for comparative evaluations. For comparing the various reactor options, the NAS assumed that 50 mt of Pu would be processed over the nominal lifetimes of the reactors.

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Mr. J. David Nulton

Page 3

The impacts of adopting the more urgent Pu disposition schedule are clear:

- Advanced, deep-burn reactor technologies, including the PC-MHR, are eliminated from further consideration.
- The required number of ~1 GW_e plants is increased from one to two, and the associated environmental impacts are doubled.
- The potential for strong international cooperation on Pu disposition and proliferation-resistant fuel cycles is hampered.

The first impact supports the current Administration's policy to curtail development of nuclear energy and eliminate development of advanced reactors. The second impact would tend to favor non-reactor vitrification/immobilization options relative to reactor options, which is also consistent with the Administration's anti-nuclear policy. The third impact was probably not anticipated by DOE, but it clearly works against the most top-level objectives associated with the Pu disposition mission.

It is apparent that the decision to adopt a more urgent Pu disposition schedule is based more on political and institutional objectives in the U.S. and less on real issues associated with Pu disposition.

Recommendation: The PEIS should be expanded to include a flexible schedule that can accommodate disposition of Pu over the expected reactor lifetime, and advanced, deep-burn reactor options should be evaluated as part of the EIS process. The "clear and present danger" argument is highly subjective and open to a wide range of interpretation. This argument should not be used to eliminate alternatives that require only a somewhat longer schedule than currently dictated by DOE.

2. Final Waste Form Characteristics

An important issue for any Pu disposition strategy is the suitability of the final waste form for permanent disposal. Respondents to the DOE questionnaire (Ref. 2) recommended additional criteria that should be used to screen Pu disposition technologies, including several criteria related to final waste form characteristics. During the screening process and preparation of the draft PEIS, DOE gave little consideration to final waste form characteristics, other than the annual volume of high-level waste generated by a disposition alternative.

Volume alone is a poor measure of the environmental impact of the final waste form. In fact, a larger volume may be an attribute, since the dilution of Pu (residual Pu if the waste is spent fuel) provides greater resistance to diversion and reduces the potential risk of underground criticality. Also, the geologic repository loading density and required repository land area are determined by decay heat load of the spent fuel and not physical volume. For the PC-MHR, the annual volume of spent fuel would be ~10 times that from a commercial LWR or Pu-disposition LWR (PD-LWR), on an equivalent electrical energy basis, but the required land area for PC-MHR spent fuel would be about one-half that required for LWR spent fuel. The greater volume of PC-MHR spent fuel is a consequence of the low power density of the PC-MHR core, which helps to provide inherent, meltdown-proof safety during normal operation and hypothetical accidents. Approximately 83% of

07 01 00 Comment Number 3

Generally, the goal is to complete disposition within 25 years after the ROD. This schedule will include the use of reactors (if selected as a disposition alternative) to irradiate the MOX fuel, meeting the Spent Fuel Standard, thereby fulfilling the purpose and need of the PEIS. The Deep Burn concept is not necessary to meet the purpose and need, and would require either more time, more reactors, or both.

12 00 00 Comment Number 4

Comment noted. See Appendix H of the Final PEIS.

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14 00 00 Comment Number 5

The Advanced Deep Burn Reactors Option, including MHRs, was considered in the screening process. Notwithstanding the many potential benefits of their use, the technical immaturity would call for costly and lengthy development and demonstration efforts to bring them to a viable status. The Screening Committee decided that the increased Pu burn-up offered by this option would not counterbalance its cost, schedule, or technical risks, and therefore, eliminated this option from further consideration.

Mr. J. David Nulton

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the PC-MHR spent fuel volume is high-purity, nuclear-grade graphite, which by itself would be classified as low-level waste. The high-level waste is confined to the fuel compacts, and the bulk of this waste (99.9%) is contained within the coating layers of the fuel particles. The PC-MHR would destroy and degrade weapons-grade plutonium well beyond the commercial LWR spent fuel standard. The final waste form would be rendered permanently resistant to proliferation, would be contained effectively for geologic time periods by multiple layers of highly corrosion-resistant ceramic coatings (Refs. 5 through 7), and would be well suited for permanent disposal in a geologic repository. The graphite is also highly resistant to corrosion (Ref. 8) and would serve as an additional protective overpack after permanent disposal. The long-term environmental impacts of permanent disposal would be significantly reduced, and potential high consequence scenarios would be eliminated, including recovery of spent fuel canisters to obtain Pu for weapons (i.e., the Pu mine issue would be eliminated), large-scale radionuclide releases caused by severe climatic changes and/or increased seismic activity (i.e., much less reliance would be placed on the geosphere for radionuclide containment), and underground criticality. With regard to these issues, PC-MHR spent fuel would be a nearly ideal waste form for permanent disposal (Ref. 9).

In screening reactor technologies for Pu disposition, the DOE has determined that the commercial LWR "spent fuel standard" was a sufficient end point. The basis for the spent fuel standard stems from the 1994 NAS study (Ref. 3). The NAS recommended that "options for long-term disposition of weapons plutonium should seek to meet a 'spent fuel standard' - that is, to make this plutonium roughly as inaccessible for weapons use as the much larger and growing stock of plutonium in civilian spent fuel." The NAS and DOE have recognized that high levels of radiation are the primary barrier to diversion of Pu in spent fuel and that this barrier decays over time. The NAS stated that "long-term options will be needed to reduce the proliferation risks posed by the entire global stock of plutonium, particularly as the radioactivity of spent fuel decays," and that "options for reducing these risks include placement of spent fuel in geologic repositories, or pursuit of fission options that would burn existing plutonium stocks nearly completely."

Without performing proper analyses, the DOE has determined that geologic disposal will provide the necessary long-term safeguards. In justifying the spent fuel standard, the DOE states in Ref. 2 that "there is a path forward established by the Nuclear Waste Policy Act (of 1982) for disposal of spent fuel in a mined geologic repository, where geologic barriers will reduce the reliance on institutional controls." This conclusion is flawed for the following reasons:

- There is no consensus among experts that isolation of spent fuel (or immobilized Pu) in a geologic repository would provide adequate long-term safeguards. It is important to realize that the NAS study (Ref. 3) makes no judgments and draws no conclusions regarding safeguards provided by geologic isolation. According to the Yucca Mountain Total System Performance Assessment (Ref. 10) and to the 1995 NAS report (Ref. 4), the eventual loss of institutional controls and human intrusion is considered to be a credible scenario for assessing long-term performance of a repository. An International Atomic Energy Agency (IAEA) advisory group concluded (Ref. 11) that LWR spent fuel "does not qualify as being irrecoverable at any point prior to, or following, placement in a geologic formation commonly described as a 'permanent repository,' and that safeguards should not be terminated on spent fuel." In a recent report (Ref. 12), the U.S. Congress Office of Technology Assessment (OTA) expressed "concerns about leaving plutonium in a repository that might be mined sometime in the future for the purpose of making weapons." This same concern was raised recently by an American Nuclear

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Mr. J. David Nulton

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Society (ANS) Special Panel on Protection and Management of Plutonium (Ref. 13). During a presentation at a recent DOE workshop (Ref. 14), Peterson concluded that "geologic repositories will provide attractive sources of fissile material for nuclear explosives for roughly 200,000 years." These concerns raised independently by NAS, IAEA, OTA, ANS, and others provide strong justification for developing a disposal strategy in which fissile materials are destroyed before geologic disposal, since safeguards and institutional controls cannot be guaranteed for tens of thousands of years.

- Even if it were determined that geologic disposal does provide adequate long-term safeguards, there is currently no permanent repository for spent fuel, and there is the distinct possibility that a repository would not be available for many decades. The political controversy associated with the Yucca Mountain repository project has slowed progress considerably. After spending more than \$2 billion, there has still been no determination of whether the site is acceptable for disposal of commercial spent fuel. In the Ref. 2 screening report, the DOE acknowledges "the tremendous cost and time being taken to evaluate the suitability of Yucca Mountain as a mined geologic high-level waste repository."
- Mixed-oxide (MOX) spent fuel from a PD-LWR would be significantly more attractive for diversion than commercial LWR spent fuel, particularly after the radiation field has decayed to lower levels. According to the 1993 DOE Pu disposition study (Ref. 15) a PD-LWR MOX spent fuel assembly would contain up to 30 kg of weapons-usable Pu, which is enough Pu to manufacture up to 4 weapons. For comparison, a typical commercial LWR spent fuel assembly would contain ~3.5 kg of similar quality Pu. A PC-MHR spent fuel element would contain only ~0.25 kg of much lower quality Pu. In addition to increased diversion risks, the high Pu content of PD-LWR MOX spent fuel would have a negative impact on the design of a spent fuel canister and repository loading strategies. Additional processing of MOX spent fuel may be required to lower the Pu density.

Other issues associated with unprocessed LWR spent fuel as a permanent waste form are poor long-term containment provided by metal-clad fuel rods within metallic canisters and the potential for underground criticality because of the relatively high concentration of fissile material in LWR spent fuel (especially in MOX spent fuel). According to the Ref. 10 performance assessment, a large fraction of LWR spent fuel would become exposed within several hundred to several thousand years because of the expected failure of Zircaloy cladding and corrosion of metallic canisters, and the only remaining barrier for release to the accessible environment would then be the surrounding geologic media. The effectiveness of this barrier for long time periods is uncertain and could be compromised by unforeseen events, including climatic changes and increased seismic activity. In testimony before the House Commerce Subcommittee on Energy and Power on June 30, 1995, John Cantlon, Chairman of the Nuclear Waste Technical Review Board (NWTBR), stated that the NWTBR "has repeatedly urged the DOE to develop a robust, long-lived waste package that will work together with other engineered barriers and the geology at the site to provide long-term isolation of the radioactive waste from the accessible environment." Cantlon stated also that "the use of such waste packages can help improve confidence in the long-term performance of the repository and thus facilitate licensing of the facility." Other experts on disposal of high-level radioactive waste have stated (Ref. 16) that "any strategy of isolation should emphasize the near-field containment of radionuclides, a function primarily of waste form or 'waste package' performance" and that "strategies that rely solely on long travel times, dispersal, or dilution, implicitly presume release and

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movement of radionuclides." In a recent report (Ref. 17), the NAS concluded that the most harmful releases of radionuclides from a geologic repository could occur well after 10,000 years, which further underscores the need to provide effective near-field containment of radionuclides for geologic time periods. Other potential benefits of superior near-field containment are less required geological characterization of the candidate repository site and greater likelihood that a given site would be found acceptable.

Recently, Bowman and Vennert proposed scenarios in which fissile material disposed in a geologic repository could eventually assume unstable critical configurations, leading to supercriticality and large energy releases (Ref. 18). The Bowman/Vennert hypothesis has been heavily criticized, on the grounds that the scenarios are highly contrived, based on idealized assumptions, and are highly improbable (Ref. 19). For LWR spent fuel, the Bowman/Vennert hypothesis may be highly improbable, but geologic time scales could provide sufficient time for even highly improbable scenarios to occur. In the Ref. 19 critique of the Bowman/Vennert hypothesis, it is stated that design choices could reduce the potential for underground criticality, including "dilution of fissile material" and use of "highly durable ceramic waste forms."

Final waste form characteristics (and not just near-term diversion resistance) will determine the overall schedule for achieving effective disposition of plutonium. Plutonium disposition using deep-burn reactors like the PC-MHR could satisfy long-term safeguards requirements without relying on the availability of a geologic repository or the determination that the repository would provide the needed long-term safeguards. This is a very significant advantage for deep-burn reactors that has been completely overlooked during the DOE screening process. PC-MHR spent fuel would be a highly stable and highly diversion resistant waste form during potentially long-term storage and after permanent disposal. If future generations could respond to the DOE questionnaire, they would undoubtedly rate final waste form characteristics as the most important criterion for evaluating high-level radioactive waste forms, including those generated from disposition of surplus plutonium.

Recommendation: Final waste form characteristics and long-term environmental impacts should be given a high priority when evaluating technologies for Pu disposition. Advanced technologies that produce clearly superior permanent waste forms and have the potential to eliminate long-term, high-consequence scenarios should be evaluated as part of the FIS, particularly if the schedules for implementing these technologies are not significantly longer than those for more established technologies and if the potential for strong international collaboration exists. The PC-MHR would clearly meet these conditions.

3. Miscellaneous Comments

Use of Borosilicate Glass for Vitrification

The vitrification alternative proposed in the draft PEIS would involve manufacturing borosilicate glass logs containing Pu and high-level waste. Recent evaluations have raised significant issues that may preclude borosilicate glass as a host phase for immobilization of plutonium. These issues include potentially poor long-term durability in a geologic repository and the potential for underground criticality. These issues received considerable attention during a recent DOE Plutonium Stabilization and Immobilization Workshop in Washington, DC (December 12-14, 1995). Since weapons-grade Pu consists mostly of the fissile isotope Pu-239, with a half-life of ~24,000 years, the time over which the waste remains highly radiotoxic and is of concern for

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Mr. J. David Nulton Page 7 underground criticality would likely exceed the expected lifetime of the glass. Scientists at Argonne National Laboratory have been developing a more durable glass for Pu immobilization (Ref. 20). Recommendation: DOE should acknowledge the potential problems with borosilicate glass and evaluate alternative glass forms during preparation of the EIS.	6/05.01.08
Viability of Electrometallurgical Treatment According to the draft PEIS, the DOE will consider electrometallurgical treatment as an option for Pu disposition. Electrometallurgical treatment was derived from pyroprocessing technology developed for reprocessing liquid metal reactor spent fuel. In its 1995 report (Ref. 4), the NAS evaluated pyroprocessing as an option for Pu disposition. The NAS determined that pyroprocessing has several disadvantages that "effectively rule it out as a serious competitor for the near-term plutonium disposition mission." The NAS raised concerns with regard to the maturity of the technology, the size of the facility required to complete the disposition mission, and suitability of the final waste form for permanent disposal. Recommendation: In light of this evaluation by the NAS, the DOE should provide stronger justification for continuing to evaluate electrometallurgical treatment as a viable option for Pu disposition.	7/05.03.08
Coated-Particle Waste Form for Pu Immobilization Coated particles were once considered by the DOE as an alternative waste form for immobilization of high-level waste, and research programs were conducted at Pacific Northwest Laboratory and Oak Ridge National Laboratory (ORNL) in the early 1980s (e.g., Refs. 3 through 7). The feasibility of coating high-level waste was established at ORNL, and coated particles were judged to have by far the best performance potential of the candidate alternative waste forms. For plutonium immobilization, the more established processes developed for coating nuclear fuel would be more applicable. One concept for a plutonium-immobilization, coated-particle waste form would be similar to a gas-cooled reactor fuel element. Kernels composed of zircon, zircon, or alternative materials and loaded with plutonium and neutron poison would be coated in a fluidized-bed coater. The coated particles would be loaded into holes within a graphite container. The coated particles could also be consolidated into compacts prior to loading into the graphite container. To provide additional diversion resistance, vitrified high-level waste could be placed into some of the holes in the graphite container. The graphite containers would be loaded into metal canisters. The proposed coated-particle plutonium waste form would offer a number of advantages:	8/14.00.00
(i) The waste form would be well-suited for both long-term interim storage and permanent geologic disposal. The coatings would provide defense-in-depth to ensure that the plutonium and neutron poison remain together for hundreds of thousands to millions of years and to ensure that the plutonium does not migrate through the geosphere to the accessible environment. Providing this extra measure of containment should increase the confidence of regulatory agencies, stakeholders, and the general public in long-term integrity of the waste form. (ii) The graphite, which is also highly corrosion resistant (Ref. 8), would provide structural stability for very long time periods.	M-008

05 01 08 Comment Number 6

Alternative glass forms were evaluated before issuing the Draft PEIS. These results are reported in the document (available in DOE Public Reading Rooms) entitled *Screening of Alternative Immobilization Candidates for Disposition of Surplus Fissile Materials*, February 9, 1996 (UCRL-ID 118819 [L-20790-1]).

05 03 08 Comment Number 7

The Electrometallurgical Treatment Alternative was considered a reasonable alternative after completion of the screening process and scoping for the PEIS. The NRC recommended successful demonstration of the electrometallurgical treatment process prior to implementation. Upon making the decision on disposition technologies, DOE will demonstrate these technologies prior to their implementation.

14 00 00 Comment Number 8

During the screening of alternatives for inclusion in the PEIS, various immobilization forms were considered. The decision was made to include immobilization in ceramic and glass forms. The specific ceramic form was not identified. R&D is both on-going and planned to support the disposition alternative(s), which would include pilot facilities for processes (such as ceramic coated particles) and materials, as necessary. Decisions on disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and input.

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08 02 00 Comment Number 9

Comment noted. The alternatives analyzed in the PEIS were determined through a screening process that included public input on the selection criteria. This process was not politically or institutionally biased.

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- (iii) Because containment is provided by the coatings and structural stability is provided by the graphite, the canister design would be very simple and inexpensive.
- (iv) The interim storage period could be extended for very long time periods, which may be necessary if a repository is not available or if other options are pursued for permanent disposition of plutonium. If necessary, the radiation barrier could be replenished by loading additional vitrified high-level waste into the graphite containers.
- (v) The technologies needed for all components of the waste form are fairly well established, and the disposition mission could be completed within the time constraints imposed by DOE.

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Recommendation: DOE should evaluate the proposed coated-particle waste form for Pu immobilization as part of the EIS process.

In general, I believe that DOE has manipulated (if not corrupted) the EIS process in order to suit specific political and institutional objectives of the current Administration. These actions are certainly not consistent with the intentions of the National Environmental Policy Act of 1969. The DOE has taken similar actions with regard to the PEIS on tritium supply (Ref. 21). I strongly encourage you to consider the comments that I have provided in this letter. The DOE should put the technology evaluations associated with the EIS processes back on a level playing field.

9/08.02.00

Sincerely,


Matt Richards, Ph.D.

cc: The Honorable Randy Cunningham
Representative, California 51st District
227 Cannon House Office Building
Washington, DC 20515

Mr. David Alberstein
Director, Defense Reactor Projects
General Atomics
Power Reactor Group
P.O. Box 85608
San Diego, CA 92186-9784

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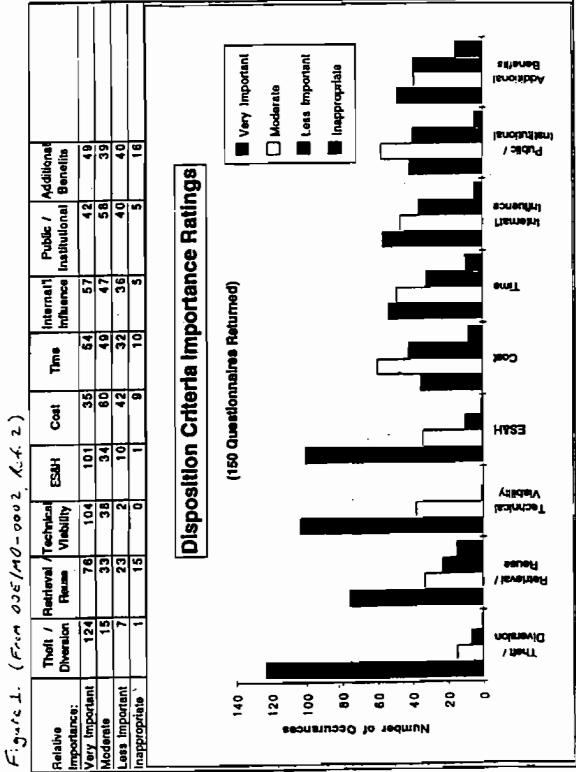
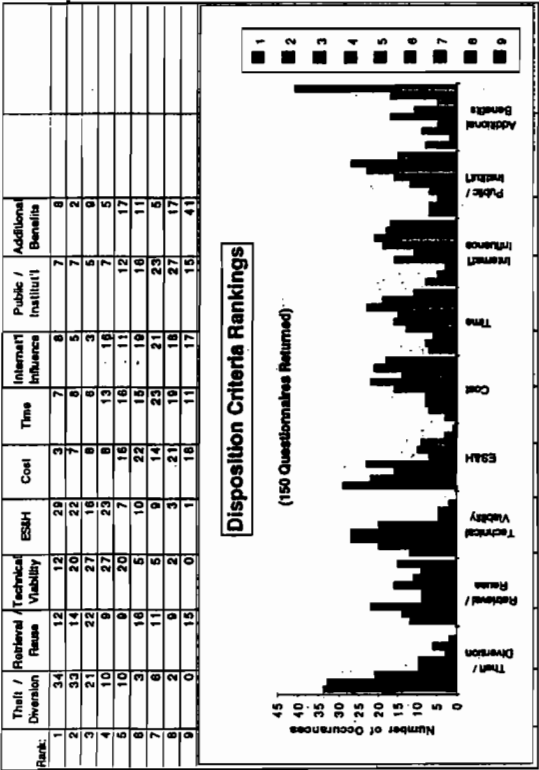


Figure 2. (From 008/MO-002, Ref. 2.)



ROCKY FLATS CITIZENS ADVISORY BOARD, LOUISVILLE, CO,
RUEBEN O. MAES
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ROCKY FLATS CITIZENS ADVISORY BOARD

An Advisory Board to the U.S. Department of Energy

MEMORANDUM

TO: Office of Fissile Materials Disposition
FROM: Erin Rogers *ER*
Rocky Flats CAB, Program Coordinator
DATE: March 25, 1996
SUBJECT: Citizen Comments on the Programmatic Environmental Impact Statement

I am forwarding to you an article that was written by a citizen of the Denver area. Mr. Reuben Maes asked that I forward this to you for input as you consider options for disposition of plutonium.

This is not the opinion of the Rocky Flats Citizens Advisory Board. Our role is simply to pass along this information to you.

Any response should be directed to:

Mr. Reuben O. Maes
P.O. Box 565
Louisville, CO 80027

Thank you.

9035 Wadsworth Parkway Suite 2250 • Westminster, Colorado 80021 • 303-420-7855 • Fax 303-420-7579

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01 04 00 Comment Number 1

The process and justification for selection of technologies evaluated in the PEIS are described in a separate Screening Report prepared by DOE. A number of alternatives involving placement of materials below the earth's surface were considered including emplacement in the sub-seabed and injection into the earth's magma. There is little data available to support these options and the retention of Pu in these media is questionable. A major concern would be the environmental impacts of any release of Pu materials following emplacement. Furthermore, the time and cost of developing these technologies would be significant and the outcome uncertain. It is expected that regulatory requirements would be extremely difficult to achieve, particularly if international waters were involved. Therefore, these types of technologies were eliminated from consideration.

1/01.04.00

July 1992

**Radioactive Waste Disposal Using Tectonic
Plate and Continental Drift Technology**

Reuben O. Maes

Not long ago the earth's crust, the lithosphere, was thought to be one solid piece. The prevailing theory was that the lithosphere is fragmented into 12 to 18 segments called tectonic plates. The best analogy described the plates as somewhat like peeling an orange in some random fashion then placing the peeled pieces back on the orange so that the result resembles a splintered jigsaw puzzle.

These segments, of all sizes and shapes, are continually in motion relative to each other, along with the continental shelves beneath them. Along with the earth's crust, the lithosphere, the uppermost part of the earth's outer shell, is the Pacific Plate, which encompasses the entire Pacific Ocean, is creeping past the North American Plate in a generally northwestern direction while that plate may be moving southward. The dividing line between the two is the San Andreas Fault along which California's earthquakes occur.

The northward movement of the Pacific Plate has been estimated to be as much as 6 cm yr⁻¹. Someday, Los Angeles will be where San Francisco is now. An estimated 5 cm yr⁻¹ equates to 1 km every 70,000 years. So when is everything going?

Some 60 million years ago 50° and 55° N latitude and passing southward from the International Decade in the 1950s, meridians there is an expanse of Pacific Ocean known as the Aleutian Trench. That is where the Pacific Plate and the North American Plate come together in a convergent (only called a subduction zone).

Convergent faults do not build up against each other as do fracture faults like the San Andreas. The southern rim of the Pacific Plate is subducted beneath the northern rim of the North American Plate. The Pacific Plate is vanishing beneath the North American Continental Plate at rates of 1 to 4 cm per half-size of 10°N.

There have always been people who recommended the ocean bottom for radioactive waste disposal. What is subduction is the coming bottom but at the bottom of the Pacific Ocean at the Aleutian Trench (not the Pacific).

If the Multiple Purpose Commission (MPC) the DOE is designing for use at Yucca Mountain, below with high-level waste, very deposited in east-west cross-sections near the rim and 200 parallel beneath the 180th meridian and 175° W. In general, there would be no need to wait seven half-lives for the decay process to take its course.

1. In something near an half-life (now at the moment) the earth would be history. It would disappear forever into the sea. The only hope of the subduction zone is to be some day. The only hope of the subduction zone is to be some day.

2. There would be virtually no environmental impact.

There cannot be anything done there but need not sit. The causes may have to be isolated around present. The MPC would not have to be isolated around present. The MPC would not have to be isolated around present.

4. The thermal building process should be discussed also. It is cold at that oceanic depth and you could not sit for a better heat sink.

5. Perhaps one step in 10,000 would be lost in sea. As long as the shipping lanes are kept west of the San Andreas and south of the 49th parallel the cargo would eventually arrive in its destination - it would just take longer.

6. If at the bottom of the trench at MPC requires or options, where can the container go? There are all these wastes.

7. And so need to wait for Yucca Mountain or MPC - the container could be kept in the trench. The MPC would not have to be isolated around present. The MPC would not have to be isolated around present.

When you have made some up some more. That is the rest of the story. Some of the sub-continental material comes back via volcanic eruptions - most of a crane back in the rift of the tectonic plate structure called divergent faults. The same oceanic subduction material keeps up the same rifts, cracks, subduction, and is pushed out by new matter coming up from below. These over-riding offer constant ocean floor spreading and are the basic mechanism of continental drift and oceanic plate tectonics.

Continental drift is a slow process. The Pacific Plate is moving northward at 10 cm per half-size of 10°N. The Pacific Plate is moving northward at 10 cm per half-size of 10°N. The Pacific Plate is moving northward at 10 cm per half-size of 10°N.

Continental drift is a slow process. The Pacific Plate is moving northward at 10 cm per half-size of 10°N. The Pacific Plate is moving northward at 10 cm per half-size of 10°N. The Pacific Plate is moving northward at 10 cm per half-size of 10°N.

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ROCKY FLATS CITIZENS ADVISORY BOARD, WESTMINSTER, CO,
TOM MARSHALL
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ROCKY FLATS CITIZENS ADVISORY BOARD

An Advisory Board to the U.S. Department of Energy

May 2, 1996

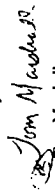
Department of Energy
Office of Fissile Materials Disposition
P.O. Box 23786
Washington, D.C. 20026-3786

Greetings:

Enclosed please find the recommendations prepared by the Rocky Flats Citizens Advisory Board (RFCAB) with respect to the Draft Programmatic Environmental Impact Statement on the Storage and Disposition of Weapons-Usable Fissile Materials.

RFCAB appreciates the opportunity to provide these recommendations and asks that they be considered in preparation of the final document and any Records of Decision that will be forthcoming. We would like to be notified in writing that these comments have been received and the status of their inclusion once that has been determined.

Sincerely,


Tom Marshall
Chair

cc: Mark Silverman, Manager, DOE-RFFO

9035 Wadsworth Parkway Suite 2250 • Westminster, Colorado 80021 • 303-420-7855 • Fax 303-420-7579

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ROCKY FLATS CITIZENS ADVISORY BOARD

An Advisory Board to the U.S. Department of Energy

Recommendations on the Draft Programmatic Environmental Impact Statement on the Storage and Disposition of Weapons-Usable Fissile Materials

May 2, 1996

General:

- DOE should reduce transport of fissile materials to a minimum, thus protecting the health and safety of workers and the public, and the integrity of the environment along the transportation corridors.
- DOE should reduce the current and future risk of nuclear proliferation. Furthermore, the U.S. should promote international inspection of both non-surplus and surplus Pu and HEU, thus implementing U.S. non-proliferation policy in a way that positively involves other countries.
- All activities associated with weapons-usable fissile materials should be subject to external, independent regulation, as recommended in December 1993 by DOE's Advisory Committee on External Regulation of Nuclear Safety. Having external regulation should help assure availability of funding.
- DOE should provide for full public participation in all decisions regarding the storage and disposition of weapons-usable fissile materials.
- Any options that DOE selects should protect the health and safety of the public and the workers, assure the integrity of the environment, and protect future generations.

Any Processing at Rocky Flats Should:

- Reduce or eliminate the necessity for any future processing or handling at Rocky Flats or at another site.
- Make the Pu as proliferation-resistant as possible.
- Put the Pu in a form suitable for disposition.

Surplus Plutonium:

- Should be regarded as a proliferation liability.

Storage:

- All storage options should result in proliferation-resistant material.
- DOE should consider other Pu storage containers besides the 30-year can.

9035 Wadsworth Parkway Suite 2250 • Westminster, Colorado 80021 • 303-420-7855 • Fax 303-420-7579

M-128

10 00 00 Comment Number 1

The human health risks of material transportation associated with the proposed Pu storage and disposition alternatives are evaluated and presented in Section 4.4 of the PEIS. The more detailed description of the methodology and supporting data for the analysis is presented in the Appendix G. Transportation of radioactive materials between sites includes health risks for both normal operations and accident conditions for the public and workers.

01 06 00 Comment Number 2

The United States has taken steps and continues to work domestically, and in Russia, to dismantle weapons, stabilize weapons materials, improve storage capability, and improve materials control and accountability. Storage and disposition actions considered in this PEIS will continue these efforts in the United States for the long-term. DOE is also working on a joint technical working group with the Russians to evaluate, and hopefully expedite, similar efforts there. The United States is promoting and making provisions domestically for IAEA inspections of surplus materials. Efforts are also under way to develop means of verifying classified materials that, because of their shape, cannot be inspected and verified using more conventional means.

01 06 00 Comment Number 3

Comment noted. DOE is still evaluating external regulatory options for its activities.

08 02 00 Comment Number 4

Comment noted. DOE is committed to full public participation in the NEPA process. Public meetings for scoping and receiving public comments on the Draft PEIS were held throughout the United States near the sites potentially affected by the Proposed Actions. Numerous methods of providing public comments were used such as mail, fax, electronic bulletin board, telephone, hand-ins, and transcripts from the public meetings. Further, separate from the NEPA process, DOE made available to the public the results of the technical, cost, schedule, and nonproliferation analyses. DOE also accepted comments on these documents. The results of these analyses and the environmental analysis as well as the public input will be considered in reaching the ROD.

ROCKY FLATS CITIZENS ADVISORY BOARD, WESTMINSTER, CO,
TOM MARSHALL
PAGE 3 OF 5

Disposition:		
• DOE should promote and support a national and international dialogue on disposition of surplus fissile materials. To be successful, disposition must be a multi-national effort.	9/01.06.00	
• DOE should release all cost study information for the MOX fuel option in time for public review and comment before release of the final PEIS.	10/08.00.00	
• DOE should further research the deep borehole technology, and focus on environmental, safety, and health uncertainties.	11/01.00.00	
• DOE should analyze other technologies.		
Processing:		
• DOE should reduce processing and handling of fissile materials to the absolute minimum, thus protecting the health and safety of workers and the public, as well as the integrity of the environment at sites where processing, storage, or disposition work occurs.	12/01.02.00	
• Processing should put the Pu in a form suitable for disposition.		
• Immobilizing Pu seems the best option for storage, but DOE should further analyze immobilization technologies to ensure proliferation-resistant material.		
• DOE should consider vitrification and ceramification as the preferred options, and it should determine their comparative merits for putting Pu in proliferation-resistant, disposition-ready form.	13/08.03.01	
• DOE should develop small-scale vitrification or ceramification pilot plants in as many sites as necessary to prove the technology, so as to determine whether stabilization and immobilization can be accomplished in a single step.	14/05.01.08	
QUESTIONS REGARDING INFORMATION ON ROCKY FLATS		
1. Table 4.2.7.9-1, note b, on page 4-341 states that the "annual natural background radiation level at RFETS is 353 mrem for the average individual." Since we no longer live in an environment of "natural background radiation level," shouldn't this note refer instead to the "average annual background radiation level" resulting from natural background plus fallout from atmospheric nuclear explosions? Accordingly, the line in the table referring to "percent of natural background" should also be corrected. Finally, the text needs to provide a source for the 353 mrem figure.	15/09.09.07	
2. Table 4.2.7.9-2 on page 4-342 gives numbers for "50-year fatal cancers" in the Rocky Flats workforce. The space for this category under workers "involved" in Pu operations is blank, the space under workers "not involved" is 15. Then the table gives a total for all workers of 16 50-year fatal cancers. How can this be? Is it true that more-exposed workers experience only a single fatality while those less exposed experience 15?	16/09.09.07	
RFCAB Recommendations on the Storage and Disposition PEIS page 2		M-128

08 03 00 Comment Number 5

Comment noted. The results of the environment safety and health analyses included in the PEIS will be considered in reaching the ROD.

01 00 00 Comment Number 6

Comment noted. Each of the commentor's points are part of DOE's purpose and need.

01 06 00 Comment Number 7

Comment noted. Nonproliferation is an integral part of the purpose and need; in this regard, DOE has prepared a nonproliferation analysis for public comment, which will be considered in reaching the ROD.

01 01 00 Comment Number 8

The 50-yr container would meet the criteria for safe storage of Pu metals and oxides. Other existing containers may not meet these stringent criteria, and developing new containers may be costly and require a considerable amount of time. However, this does not preclude the development of new containers. Proliferation resistance will be an integral part of storage decisions. Analyses of the cost, schedule, technical, and Nonproliferation Policy impacts are described in separate documents and will be considered in DOE's decision. The Draft Nonproliferation and Arms Control Assessment of Weapons-Usable Fissile Materials Storage and Plutonium Disposition Alternatives was made available for public review in October 1996.

01 06 00 Comment Number 9

The Department of Energy has established a joint technical working group with Russia to evaluate options for disposition of Pu. A report on disposition options evaluated by this group was issued in September 1996. DOE is pursuing joint technical demonstration opportunities with Russia. It is hoped that these activities will help focus and expedite disposition efforts in Russia. DOE has also engaged the other nations of the G-7 to collaboratively address this global issue.

08 00 00 Comment Number 10

In the interest of openness and more informed decisionmaking, DOE released Technical Summary Reports to the public as soon as they became available. Cost data, along with technical and schedule data, were provided in Technical Summary Reports of both storage and disposition in the summer of 1996. Results of the nonproliferation analysis were made available in the fall of 1996. Each of these analyses along with the environmental analysis and public input will be integrated into DOE's decisionmaking process.

01 00 00 Comment Number 11

During fiscal year 1997, DOE plans to continue to expand a range of small-scale tests of Pu disposition technologies to remove any uncertainties in viability. An assessment of the geology and safety of boreholes is being performed. Should the Borehole Alternative be selected to implement the Proposed Action, siting of boreholes would be conducted, and more detailed analyses of the borehole characteristics and environmental impacts would be performed as appropriate. A reasonable range of technologies has been analyzed in detail in the PEIS, and some variants have been noted. The Final PEIS has been expanded to discuss one of these variants (*Can-in-Canister Variants*, Appendix O); further analyses of technology variants will be included in tiered NEPA analyses.

01 02 00 Comment Number 12

The Department of Energy is committed from a health and safety, environmental, and cost standpoint to keeping both material processing and handling at a minimum. Both the Pu conversion and pit-disassembly and conversion processes would prepare the material for the particular disposition technology(ies) selected in the ROD.

08 03 01 Comment Number 13

The Department of Energy acknowledges the commentor's support for the
Vitrification Alternative. Decisions on disposition of weapons-usable fissile
materials will be based upon environmental analyses, technical and economic
studies, national policy considerations, and public input.

05 01 08 Comment Number 14

If the Ceramic Immobilization Alternative is selected in the ROD,
maximizing synergy between stabilization and immobilization activities will
be an important goal.

09 09 07 Comment Number 15

Detailed natural background radiation information was presented in the
Chapter 3 of the PEIS. This information includes the sources and values of
the natural background radiation. Radiation from the weapons test fallout was
also included in Chapter 3. In general, the radiation from the weapons test
fallout is only small fraction of natural background radiation (<1 mrem/yr vs.
>300 mrem/yr, respectively).

09 09 07 Comment Number 16

The noninvolved workers are those workers onsite but not directly involved
in the alternatives. Generally, the noninvolved workers comprise most of the
total onsite workforce (about 98 percent). The involved workers are those
workers who are directly involved in the alternatives (No Action). The fatality
difference in this table is the difference of the radiation latent cancer fatalities
between the noninvolved workers and the involved workers. There are many
more noninvolved workers (about 6,000 in RFETS) than involved workers
(about 100 for No Action). The average dose for the involved worker is about
twice the average dose of the noninvolved worker.

**ROCKY FLATS CLEANUP COMMISSION, INC., LAKEWOOD, CO,
JAMES S. STONE
PAGE 1 OF 8**

Rocky Flats Cleanup Commission, Inc.
James S. Stone, P.E., Technical Advisor
2510 Miller St., Lakewood, CO 80215-1122, V/Fax (303) 337-8938, FAX@RFLC.COM, 529-96
J. David Nulton, Director, NEPA Compliance & Outreach
U.S. Department of Energy, Office of Fissile Materials Disposition
P.O. Box 23786, Washington, D.C. 20026-3786
Re: Public comment on DOE/EIS-0229-D

Thank you for the opportunity to present my comments on the Storage and Disposition of Weapons-Usable Fissile Materials. Please excuse the late reply. I was waiting to review the complete document, which has not yet arrived.

The technical adequacy of the Summary document is excellent; however, there is another alternative that should be considered. A private stakeholder has submitted a conceptual design type Alternative to provide the engineering and a specific site for the storage and disposition of all waste and special nuclear materials from the Rocky Flats Environmental Technology Site. The preliminary evaluation by RFETS is "An Advantage this alternative has over other offsite disposal alternatives is the reduced transportation costs and risks." The site graded 87 to 95% in the Geotechnical, Hydrological, Environmental, and Economical rating matrix in the DOE Technical Approach Document (050425 Rev. 1, 4/88). See attached Prospectus.

RFCC agrees that the RFETS is not suitable for the stewardship and management of nuclear weapons components and special nuclear materials, including the storage and disposition of weapons-usable fissile materials, that is now stored precariously according to the DFNSB. A more compelling fact for your help is that these materials must be removed at the earliest date, because about two million people in the surrounding metro-Denver area are in eminent danger. The unsafe storage facilities are in close proximity with unstable hazardous and radioactive materials and the simultaneous decontamination decommissioning operations. Also, the cost of a temporary D&D program to strengthen storage buildings or build new ones, with the current mortgage of about \$2 million/day, would deplete the budget and perpetuate the danger indefinitely.

The Proposed Alternative for a New Offsite Facility near RFETS for the disposition of all waste and the safe interim storage of special nuclear materials is logical, feasible, cost effective, and would incur less risk than any other alternatives evaluated to date. It also provides for near term compliance with requirements of the "Settlement Agreements and Compliance Orders on Consent No. 93-04-23-01", which compels DOE and its contractors to implement the Mixed Residue Reduction Program in a timely and adequate manner.

In conclusion, RFCC requests that DOE include this Alternative in the final EIS to allow implementation of this plan, providing of course that it is also selected as a preferred alternative in the final Accelerated Site Action Plan being evaluated by RFETS.

Thank you for your consideration. Sincerely,


James S. Stone, P.E.
Copy to Mark Silverman, Manager, DOE/RFO/RFETS

14 00 00 Comment Number 1

The recommended alternative would not meet the basic goals of the purpose and need described in the PEIS. The described alternative provides only interim storage and would add an additional site to the DOE complex, while one goal is to reduce storage and infrastructure cost. Further, the goal is long-term storage. The described alternative also does not meet the goals for disposition as described by the "Spent Fuel Standard."

Should a decision be made to provide "interim" storage for the RFETS materials, that decision will be coordinated and integrated with the decisions from this PEIS.

08 03 00 Comment Number 2

In accordance with existing agreements, DOE is moving toward the removal of all weapons-usable fissile materials from RFETS. This is the reason that all alternatives for long-term storage in the PEIS include the environmental impacts of the removal of the materials from RFETS.

1/14.00.00

2/08.03.00

1/14.00.00
cont.

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ROCKY FLATS CLEANUP COMMISSION, INC., LAKEWOOD, CO,
JAMES S. STONE
PAGE 2 OF 8

Stone Environmental Engineering Services, Inc.
James S. Stone, P.E., Vice President/Engineering
2510 Miller St., Lakewood, Colorado 80215-1323, Ph/Fax 303-2719338, E-MAIL JSS@SEEK.ATP, L2/4/95

ACCELERATED SITE ACTION PROJECT
Rocky Flats Environmental Technology Site, Denver, Colorado

PROPOSED NEAR-OFF-SITE DISPOSAL/STORAGE FACILITY FOR
ASAP II SCENARIO 1 WITH
MONITORED AND RETRIEVABLE DISPOSAL SITE FOR ALL
RADIOACTIVE WASTE, SAFE REPOSITORY FOR ALL SPECIAL
NUCLEAR MATERIALS, AND A RESEARCH FACILITY



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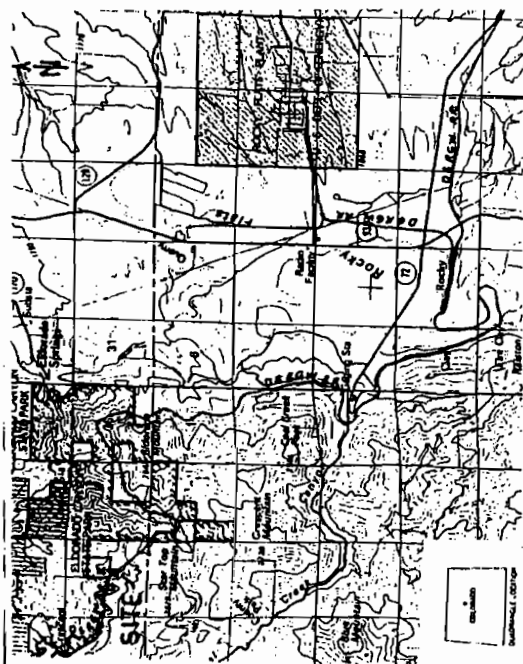
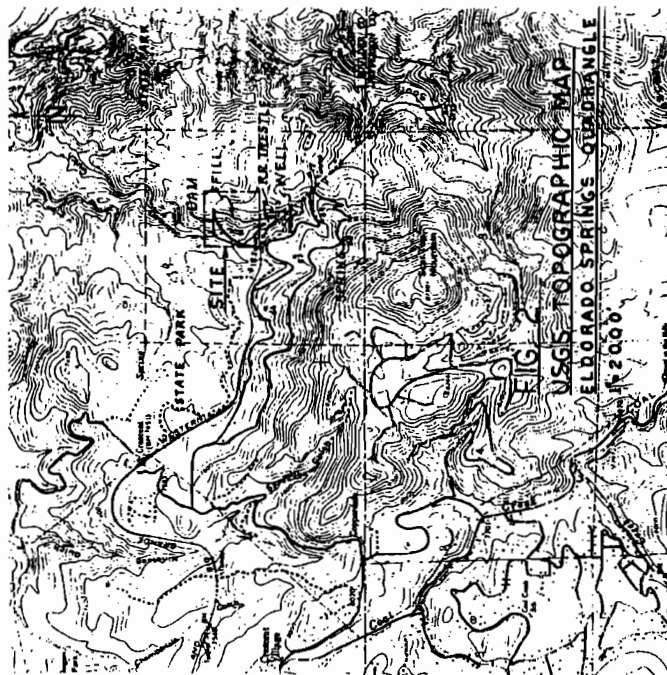


FIG. 1 SURFACE MANAGEMENT STATUS 1986
B.L.M., DENVER WEST, COLORADO QUADRANGLE, 1" = 1 mile

1. **SURFACE MANAGEMENT STRATEGY.** Stone Environmental Engineering Services, Inc. (see p. 18), was an early proponent of the use of a "wax" to prevent the migration of organic vapors from the landfill. In 1981, a 6 mil WAX[®] in a single layer was applied to the Rocky Flat Environmental Landfill in Denver, Colorado. The WAX[®] was applied by the Rocky Flat Environmental Landfill Technology Unit. SEES often the use of a conceptual diagram like this to illustrate the use of WAX[®] in a landfill. The diagram shows a cross-section of a landfill with a layer of WAX[®] applied to the surface. The diagram is labeled "WAX[®] Applied to the Surface of the Landfill" and "WAX[®] Applied to the Surface of the Landfill". The diagram is labeled "WAX[®] Applied to the Surface of the Landfill" and "WAX[®] Applied to the Surface of the Landfill".

[illegible]

OPTIONS FOR A "NEAR OFF-SITE" WASTE FACILITY

1. CONSTRUCTION OPTIONS FOR KAISER-HILL/ASAP FOR RFFTS: The background for the project is described in FIV 1.4.2. This general construction work includes: 1) Security guard, full time - 2 yrs. Contracted - 2,000 sq. ft. for guard, 20 ft. high truck, 8 ft. on-off loading dock. Install - 6,000 sq. ft. security fence, with 1 deck gate and 2 road gates. Install site facilities and utilities to suit the respective Options. Comply with all applicable USDOE design and construction standards for the respective type facility.

Opt. 3.1 This option specifies an open review, that is safe, dry, stable, granular, accessible by DMCW BA, to provide for the off-site/retrievable storage of 1,000,000 net cu. yds. of LLJLW/DOW, in bulk, 35 gal drums, or large crates from RFFTS. The required work includes: 1) Security guard, full time - 2 yrs. Contracted - 2,000 sq. ft. for guard, 20 ft. high truck, 8 ft. on-off loading dock. Install - 6,000 sq. ft. security fence, with 1 deck gate and 2 road gates. Install site facilities and utilities to suit the respective Options. Comply with all applicable USDOE design and construction standards for the respective type facility.

Opt. 3.2 This option specifies a review per Opt. 3.1, filled with 2,500,000 gross cu. yds. of stabilized waste/solidified cement monolith, as provided for the off-site/retrievable storage of 1,000,000 net cu. yds. of LLJLW/DOW, from RFFTS.

The required work includes: 1) Security guard, full time - 2 yrs. Contracted - 2,000 sq. ft. for guard, 20 ft. high truck, 8 ft. on-off loading dock. Install - 6,000 sq. ft. security fence, with 1 deck gate and 2 road gates. Install site facilities and utilities to suit the respective Options. Comply with all applicable USDOE design and construction standards for the respective type facility.

Opt. 3.3 This option provides for off-site/retrievable storage of 1,000,000 net cu. yds. of LLJLW/DOW, in bulk, 35 gal drums, or large crates from RFFTS.

The required work includes: 1) Security guard, full time - 2 yrs. Contracted - 2,000 sq. ft. for guard, 20 ft. high truck, 8 ft. on-off loading dock. Install - 6,000 sq. ft. security fence, with 1 deck gate and 2 road gates. Install site facilities and utilities to suit the respective Options. Comply with all applicable USDOE design and construction standards for the respective type facility.

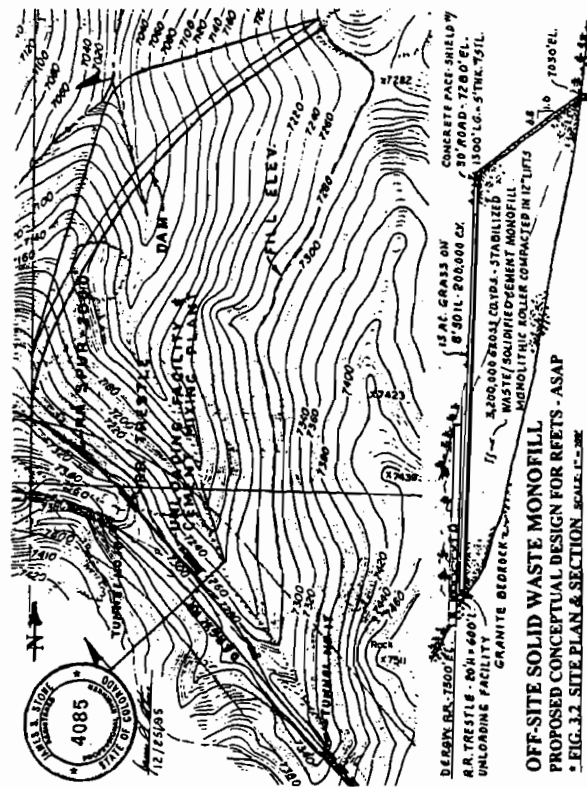
Opt. 3.4 This option provides for off-site/retrievable storage of 1,000,000 net cu. yds. of LLJLW/DOW, in bulk, 35 gal drums, or large crates from RFFTS. The required work includes: 1) Security guard, full time - 2 yrs. Contracted - 2,000 sq. ft. for guard, 20 ft. high truck, 8 ft. on-off loading dock. Install - 6,000 sq. ft. security fence, with 1 deck gate and 2 road gates. Install site facilities and utilities to suit the respective Options. Comply with all applicable USDOE design and construction standards for the respective type facility.

ATTRIBUTES:

- 4.1 The proposed facility is located in Colorado in close proximity to the Rocky Mountain Arsenal.
- 4.2 The proposed facility is an off-site facility with low design options, as follows:
 - 4.2.1 Sub/monolith/retrievable storage of 1,000,000 net cu. yds. of LLJLW/DOW in an open facility
 - 4.2.2 Sub/monolith/retrievable storage of 2,500,000 gross cu. yds. of LLJLW/DOW in a 2,500,000 gross cu. yds. stabilized waste/solidified cement monolith
 - 4.2.3 Sub/monolith/retrievable storage of 1,000,000 net cu. yds. of LLJLW/DOW, and sub/monolith/retrievable storage of 10,000 net cu. yds. of TRUW/SNA, and a second, modern Waste Management Research Facility.
- 4.3 The evaluation of this site was 87% in USDOE, Technical Approach Document on geotechnical, hydrological, environmental and economic rating matrix.
- 4.4 The evaluation of this site was 87% in USDOE, Technical Approach Document on geotechnical, hydrological, environmental and economic rating matrix.
- 4.4.1 The proposed facility is located in Colorado in close proximity to the Rocky Mountain Arsenal.
- 4.4.2 The proposed facility is an off-site facility with low design options, as follows:
 - 4.4.2.1 Sub/monolith/retrievable storage of 1,000,000 net cu. yds. of LLJLW/DOW in an open facility
 - 4.4.2.2 Sub/monolith/retrievable storage of 2,500,000 gross cu. yds. of LLJLW/DOW in a 2,500,000 gross cu. yds. stabilized waste/solidified cement monolith
 - 4.4.2.3 Sub/monolith/retrievable storage of 1,000,000 net cu. yds. of LLJLW/DOW, and sub/monolith/retrievable storage of 10,000 net cu. yds. of TRUW/SNA, and a second, modern Waste Management Research Facility.

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ROCKY FLATS CLEANUP COMMISSION, INC., LAKEWOOD, CO,
JAMES S. STONE
PAGE 7 OF 8



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01 06 00 Comment Number 1

Comment noted.

08 03 01 Comment Number 2

The Department of Energy acknowledges the commentor's opposition to the Collocation Alternative. Decisions on storage of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

08 03 01 Comment Number 3

The Department of Energy acknowledges the commentor's support for new missions at Hanford. Decisions on storage and disposition of weapons-usable fissile materials will be based on environmental analyses, technical and economic studies, national policy considerations, and public input.

08 03 01 Comment Number 4

The Department of Energy acknowledges the commentor's support for Pu disposition in reactors. Decisions on disposition of weapons-usable fissile materials will be made based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

08 03 01 Comment Number 5

The Department of Energy acknowledges the commentor's support for the MOX Reactor and Vitrification Alternatives. Decisions on disposition of weapons-usable fissile materials will be based on environmental analyses, technical and economic studies, national policy considerations, and public input.

08 03 01 Comment Number 6

The Department of Energy recognizes the commentor's concern with the Borehole Alternatives. Decisions on the disposition alternatives will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

Comment Form	
United States Department of Energy	
NAME (Optional) <u>Gordon J. Rogers</u>	1/01.06.00
ADDRESS <u>1108 N. Reno St., Pasco, WA 99301-2744</u>	2/08.03.01
TELEPHONE <u>(509) 547-7403</u>	3/08.03.01
* <u>Safe, prompt disposal of weapons-usable Pu is urgent. Let's get this program moving now! Helping the Russians securely control and get started on one or more waste fuel is also urgent.</u> * <u>Storage Options: Hanford could handle one of them. However, I don't believe that co-location and consolidation of all fissile materials at one location is prudent. I favor the upgrade of existing and/or new facilities in fact for Hanford. The existing TEF results and the FMEF would be excellent choices.</u> * <u>Disposal Options: The Reactor Burn is best. It is minimal going to fuel to use the energy in this as simple as Pu. Vitrification is OK for very and other forms not suitable for economic use in MOX fuel. The deep burial option is insane - that's the worst idea. The Yucca Mtn. goes all over 9000 ft. Hanford is clearly a top choice for the MOX fuel reactor burn program. The FMEF is available for interim storage and conversion to Pu oxide for MOX fuel. It has the substantial effort in the past for use as a MOX fuel fabrication plant. The WPPSS Plant 2 is ready, willing and able to begin MOX fuel testing. The WPPSS Plant 1 is about 70% complete and could be readily completed for MOX fuel burn. The FTEF could use MOX fuel and produce plutonium and medical radioisotopes. Remove LWR fuel fast plant is here. The Hanford site has many advantages.</u>	4/08.03.01 5/08.03.01 6/08.03.01
	3/08.03.01 cont.

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ROGERS, GORDON J., PASCO, WA
PAGE 2 OF 2

Storage/Disposition PEIS	Page 2	3/08.03.01 cont.
<i>in existing facilities and infrastructure. This program would take advantage of our skilled work force population.</i>		
<i>• This new storage/disposition program must be funded independently of the current Hanford EM program. There will be opportunities to combine certain functions of the disposition program with the EM cleanup program, such as waste treatment of its conversion waste streams,</i>		7/11.00.01
<i>• The estimated environmental impacts of the several portions of the overall program seem to be very minor for such a major and important activity and are clearly acceptable. Current technology and accumulated experience provide clear evidence that such work can be carried out while avoiding the environmental impacts of the cold war era.</i>		
<i>• I believe this community and region can support the conduct of major portions of this program at Hanford provided it does not unduly delay the current EM program. This program is truly a grand opportunity to close the circle of the plutonium era started at Hanford. It can work to the benefit to the region, the nation and the world. Thanks for the opportunity to comment.</i>		8/11.01.01

M-173

11 00 01 Comment Number 7

Funding for all alternatives under the Fissile Materials Disposition Program will be through the Government budget process. This program will be funded independent of the Environmental Management Program.

11 01 01 Comment Number 8

Comment noted.

08 03 01 Comment Number 1

The Department of Energy acknowledges the commentor's support of Pantex. Decisions related to future missions at Pantex will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

Date: Tue, 23 Apr 1996 0400

Subject: FORUM Form - incoming

serial_no = 162

MainTitle = FORUM Form - incoming

name = karen ruddy

title = Researcher/InformationScientist

company = Amarillo College

addr1 =

addr2 =

city = Amarillo

state = Texas

zip = 79109

phone = 806 353 0552

fax =

email = mkruddy@actx.edu

ctype = public

subject =

•• The following is the text of the Author's Comment.

All system go! It is important to continue the program for Pantex and Amarillo, Tx.

END comment

1/08.03.01

E-003

RUMSY, RUSS
PAGE 1 OF 1

Comment ID: P0015
Date Received: April 18, 1996
Name: Russ Rumsey
Address:

Transcription:

I am totally against any shipments of any waste into Idaho of any kind, and I would like to see the whole INEL out there be dismantled and taken out of the state. I don't believe we need it here, and I am not happy with what's been going on out there for years. Thank you very much.

1/08.03.01

08.03.01 Comment Number 1

The Department of Energy acknowledges the commentor's opposition to new missions at INEL. Decisions on the storage and disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

P-015

08 03 01 Comment Number 1

The Department of Energy acknowledges the commentor's support for the Existing LWR Alternative. Decisions on disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

01 03 00 Comment Number 2

The Department of Energy believes that the process for making decisions, including national policy considerations, will provide the basis for implementing Pu disposition actions that will encourage other nations to dispose of their Pu. The technical disposition process may not be the same for all nations.

Comment Form These comments apply to the following documents: Storage, Handling, and Disposition of Plutonium (SHPD) EIS Storage, Handling, and Disposition of Plutonium (SHPD) EIS Plutonium Management and Disposition (PMD) EIS United States Department of Energy	NAME: (Optional) <u>JOHN M. RYSKAMP</u> ADDRESS: <u>184 COMMONS IDAHO FALLS, ID 83401</u> TELEPHONE: <u>(208) 524-4677</u>	1/08.03.01
My choice for Pu disposition is to burn Pu in existing light water reactors and producing electricity as a result. This will provide a significant return on tax-payer dollars. In addition, the beneficial use of plutonium will allow the U.S. to gain more knowledge in this area and maintain its leadership in the nuclear field. The PEIS demonstrates that the "existing reactor" option is better than most from the environmental standpoint. The U.S. Government has made an enormous investment in the production of plutonium. To me it is a sin to just throw the Plutonium away via the Deep Borehole or Immobilization options. Also, the Borehole and Immobilization options will probably not be acceptable to the Russians. We need to choose a disposal option that will also encourage the Russians to dispose of their plutonium.		2/01.03.00

ID-005

11 01 08

The Department of Energy acknowledges the commentator's suggestion to keep the tritium production mission separate from the Pu disposition mission. The separation of these two missions is the DOE's current position. However, the Multipurpose Reactor Option was preserved as an option for future consideration.

These comments are on only the following documents:

Storage and Disposition Directives
Stockpile Stewardship and Management
Weapons Production and Maintenance

United States Department of Energy

NAME: (Optional) JOHN M. ALEXANDER

ADDRESS: 184 COMMONS IDAHO FALLS, ID 83401

TELEPHONE: (208) 524-4677

Keep the plutonium disposition and tritium production missions separate. The missions will not come forward as fast if they are combined. Furthermore, it is unclear we're to have to produce weapons materials (tritium) in a commercial light water reactor. It is acceptable and appropriate to dispose of weapons-grade plutonium in a commercial light water reactor. The general public should never be able to claim that weapons materials (tritium) are being produced in commercial reactors.

1/11.01.08

ID-006

16 00 00 Comment Number 1

All acronyms used in the Final PEIS Summary are included in the Acronyms and Abbreviations section of the document.

16 00 00 Comment Number 2

A lowercase "l" was used as an abbreviation for liters in order to maintain consistency with other DOE EISs currently being prepared. This abbreviation is consistent with the Style Guide used for this document.

09 00 08 Comment Number 3

Figures S-39 through S-44 in the Summary of the Draft PEIS reflect the total impacts for each of the Reactor Alternatives. The x-axis key on each of the graphs identifies the number of reactors that were used to determine the total impact. Therefore, the bar charts reflect the impacts for the number of reactors identified.

 Comment Form Fill in these comments on the following documents: DOE Draft Supplemental Environmental Impact Statement for the Snake River and Big Lost Springs Geothermal Energy Projects, Final Supplemental EIS, February 1989. United States Department of Energy	NAME (Optional) <u>JOHN M RYSKAMP</u> ADDRESS: <u>189 COMMONS, IDAHO FALLS, ID 83401</u> TELEPHONE: <u>(208) 524-4677</u>	1/16.00.00
<i>In the PEIS Summary, please define the following acronyms: EE, PEL, HT, MET, HT, SW, GW, MW, BWT, etc. because they are used in the Table of the Summary.</i> <i>Throughout the Draft PEIS, I is used incorrectly as an abbreviation for liters. Please use a script L or a capital L to represent liters to avoid confusion and follow the official rules of SI units.</i> <i>On Figs S-40, etc., for 2 reactors etc. I increase the base by a factor of 2? Or, is the bar including this (the value for 2 reactors)?</i>	2/16.00.00	
<i>On Figs S-40, etc., for 2 reactors etc. I increase the base by a factor of 2? Or, is the bar including this (the value for 2 reactors)?</i>	3/09.00.08	

ID-007

SALINIS, EUSTOLNE, JR., RICHLAND, WA
PAGE 1 OF 1

Comment Form	
These comments apply to the following documents: - Storage and Disposition Draft PEIS - Stockpile Stewardship and Management Draft PEIS - Fissile Site-Wide Draft EIS United States Department of Energy	
NAME (Optional):	Eustolne Salinis Jr.
ADDRESS:	55 LARSEN #99 Richland WA 99352
TELEPHONE:	509 943-5264
I wholeheartedly agree and support as put forth the position of Richland for beyond the per base in the area is a good decision. OCSA	

1/08.03.01

WA-003

08 03 01 Comment Number 1

The Department of Energy acknowledges the commentor's support for new missions at Hanford. Decisions on storage and disposition of weapons-usable fissile materials will be based on environmental analyses, technical and economic studies, national policy considerations, and public input.

SALISBURY, DIANA, SARDINIA, OH
PAGE 1 OF 6

April 9, 1996	David Nulton U.S. Department of Energy Office of Fissile Material Disposition P.O. Box 23786 Washington, D.C. 20026-3786	Re: COMMENTS SUBMITTED ON THE DRAFT FOR STORAGE AND DISPOSITION OF FISSILE MATERIALS	Dear Mr. Nulton:	The Department of Energy lists two categories for the disposition of fissile materials: long term storage and plutonium disposition. Alternatives presented to the public from these two categories are undefined and probable to be "hybrids" from many options. Under these circumstances, it is nearly impossible for the public to offset comment on the agency's most probable actions and to foresee consequences of those actions. Public health and safety should be the agency's highest priority in the selection of alternatives for the management of fissile materials. Restoration of public trust would logically follow from such a priority system.	1/01.04.00
				The agency defines "long term" as fifty years. The "no action" alternative would be logically interpreted to mean that the agency intends to leave fissile materials on-site with no actions implemented to protect the public, workers, and the environment from contamination by these materials. This alternative does not appear to be reasonable or have serious merit for agency consideration.	2/08.03.00
				Upgrading of existing facilities should be fully explained to the public. "Partial consolidation" should be clearly defined as to what materials are being consolidated, where potential sites for consolidation have been identified by DOE, in what amounts, and with what future agency intentions. Agency terminology of consolidation with no future intentions "at this time" is not likely to inspire confidence from the public regarding the agency's openness.	3/02.01.08
				The consolidation alternative poses many unsolved technical problems and risks to the public. Transportation of this material to centralized or regionalized sites would contain risks from exposure to workers, communities along transportation routes, commercial carriers, and the "host" communities of the storage facilities. It would appear that the consolidation alternative has inherent potential problems and that reducing risks of "smaller" disasters cannot be reasonably accomplished by consolidation of materials in one or two sites for "larger" disasters.	4/02.00.08
					5/09.00.08

M-031

01 04 00 **Comment Number 1**

The PEIS evaluates two Proposed Actions: long-term storage of weapons-usable fissile materials and the disposition of materials declared surplus to national defense needs. Long-term storage is not a disposition option. Long-term storage has three alternatives analyzed in the PEIS: Upgrade at Multiple Sites, Consolidation of All Pu At a Single Site, and Collocation of Pu With HEU At a Single Site. Disposition has three categories of alternatives: Pu Burning in Reactors, Pu Immobilization in a Glass or Ceramic Form, and Emplacement of Pu in Deep Boreholes. It is possible that a hybrid alternative involving more than one disposition option could be selected in the ROD. It is also possible that the same site could be chosen for storage and some disposition activities. The PEIS (Chapter 4) reflects the cumulative impacts of these activities. Cumulative impacts are also provided in the Summary.

08 03 00 **Comment Number 2**

The Department of Energy acknowledges the commentor's suggestion regarding the criteria that should be used in determining the Preferred Alternative for the storage and disposition of weapons-usable fissile materials. The criteria, along with other input provided through the public review process, will be presented to the decisionmaker to support the ROD.

02 01 08 **Comment Number 3**

The *National Environmental Policy Act* requires the analysis to include the No Action Alternative as a baseline to compare the potential environmental impacts. The No Action Alternative may not accomplish the purpose and need as identified by the PEIS, which is the case for storage and disposition. However, should the No Action Alternative be chosen, ongoing actions such as material stabilization, security, health, and safety improvements would continue under the current management direction to ensure that the environment and the people are protected.

PLUTONIUM DISPOSITION:

Two of the three alternatives presented by the agency for plutonium are immobilization and reactor use. From conversation on or about April 2, 1996 with Cheryl Moss of the Nuclear Energy Institute, the alternative of plutonium used for nuclear reactor fuel is being promoted by some interests as a one time run-through with disposal afterward. Both alternatives postpone, but do not eliminate the problem of that proven technology exists for repository disposal. "Recycling" as a one time run-through for use as nuclear reactor fuel does not eliminate the problem of waste disposal and containment. It merely postpones dealing with the problem.

It would appear to me that asking the public to pay for reactor conversion for a one-time run through to extract energy from this material before disposal is not well considered use of public funds. (THE CINCINNATI ENQUIRER, "PLUTONIUM MAY BE RECYCLED," Saturday, March 30, 1996. Copy enclosed)

...the civilian nuclear power industry clearly is interested in the material, especially if the government provides it free and pays for reactor conversions. (IBID.)

The third alternative, deep borehole, has no proven merit and no realistic possibility that a site could be selected with public approval. The concept of public approval should be inherently part of the agency's decision in disposition of materials under its management. The agency has offered assistance to local and state governments in its spent nuclear fuel EIS. The agency has suggested that DOE would offer assistance to state and local governments to site necessary facilities, if opposition from the public required assistance, to law enforcement personnel. I would respectfully request that the agency offer assistance to the public to meaningfully participate in the agency's decision-making process rather than offer assistance to site facilities over public objections.

The agency has defined "long term" as fifty years. Given the current lack of alternative with likelihood of success for even this time period, the most preferred alternative may well be continued research for a disposal method with probability of containment from the environment.

Consequences of miscalculations and human error in the disposition of fissile materials are irreversible. I respectfully ask the agency to consider the long term

6/01.02.00

7/08.03.01

M-031

02 00 08 Comment Number 4

The Final PEIS describes the storage alternatives, with sections explaining the approach for each site including locations and quantities. The intent of the storage alternatives is to provide safe, secure storage of the surplus materials until they can be processed for disposition, or for long-term (up to 50 years) storage of the non-surplus materials.

09 00 08 Comment Number 5

The risks to workers and the public at DOE sites and communities along transportation routes are considered in the decisionmaking process. Other areas of potential impacts include biological, cultural, air quality, water, and socioeconomic. All were given consideration before the Preferred Alternative was selected and will be considered in reaching the ROD.

01 02 00 Comment Number 6

Comment noted.

08 03 01 Comment Number 7

The Department of Energy has an on-going national dialogue effort to obtain input to its decisionmaking process, cross-cutting various programs, to achieve fully integrated decisions.

The timeframe of 50 years for long-term storage was deemed appropriate when considering the lifecycle of a facility. Anything beyond that period would likely be considered speculative in the NEPA sense. Research and development is both on-going and planned to support disposition alternative(s) if selected, the ROD would include pilot facilities.

SALISBURY, DIANA, SARDINIA, OH
PAGE 3 OF 6

3

Implications of its actions in Record of Decision beyond the fifty year time period. Given the present pressures from development interests on the agency for specific actions and funding to for those actions, I request that the agency consider "preferred alternatives" for the Protection of the public health and safety. Please see attached letter of March 12, 1996 from Mr. Steven Carter of Ohio Valley Regional Development Commission to the DOE regarding distribution of funding allocated to the agency for site remediation at the Portsmouth Gaseous Diffusion Plant located in Piketon, Ohio. It would appear that public funds for agency projects determined to be necessary for the public health and safety under National Environmental Policy Act are considered potential sources of revenue for the siting of development projects.

The agency is too frequently perceived as a funding source for development interests and quasi-governmental entities. The only long term and consistent interest in agency decision-making process comes from the directly affected public. It is the public that bears the risk, pays the cost, and lives with the long term consequences of agency decisions.

Thank you for any consideration given my comments on this vitally important issue.

Respectfully submitted,

Diana Salisbury
Diana Salisbury
7019 Ashridge Arnheim Road
Sardinia, Ohio 45171
(513) 446-3135 telephone and fax

cc: The Honorable Rob Portman
enclosures

7/08.03.01
cont.

M-031

SALISBURY, DIANA, SARDINIA, OH
PAGE 4 OF 6

ATTACHMENT # 3

NATION ———— 1. SALISBURY, MARCH 30, 1996 THE CHANNATTI ENGLISH

Plutonium may be recycled

Nuclear reactors could use surplus as fuel

BY H. JOSEF HERBERT
The Associated Press
WASHINGTON — A proposal to turn tons of Cold War plutonium into commercial reactor fuel has caught the interest of U.S. utilities. But critics are worried it could make the weapons-grade material seeking weapons-grade material.

Several U.S. power companies operating 37 nuclear reactors have expressed interest in the idea being considered by the Energy Department, according to department documents obtained Friday. A Canadian utility is interested as well.

Energy Secretary Hazel O'Leary is expected by the end of the year to decide on the disposal of more than 32 tons of plutonium left over from old warheads and warhead production.

Among the utilities that have

expressed interest are Duke Power Co., Westinghouse Electric Corp., Georgia Power Co., the Arizona Public Service Co., and Virginia Power Co., all major operators of nuclear reactors.

Critics of the plutonium mix contend it would go counter to the Clinton administration's overall policy of reducing the risks of nuclear proliferation and send the wrong signal to the world, as well as the Russians.

"The United States will be signaling that plutonium has some value. It would encourage countries to pursue plutonium (as a fuel) contrary to administration nonproliferation policies," said Daniel Horner of the private Nuclear Control Institute.

The group urged Ms. O'Leary recently to reject the idea.

M-031

OHIO VALLEY REGIONAL DEVELOPMENT COMMISSION *A Regional Partnership Dedicated to the Development of Southern Ohio*

March 12, 1996

U.S. Department of Energy
Environmental Information Center
FY'98 Prioritization Comments
505 West Emmitt Avenue, Suite 3
Waverly, OH 45690

Dear Sirs:

Thank you for the invitation to attend the February 26, 1996, Public Stakeholders Meeting inviting input into the U.S. Department of Energy's FY'98 Environmental Management Budget for the Portsmouth Site in Piketon, Ohio. Our written comments follow:

- 1) It has been our understanding in listening to public comments from Thomas Grumbly, Assistant Secretary for Environmental Management, during his presentation at the March 1995, DOE Worker Transition/Local Governments Conference in Washington, D.C. that he encouraged local governments and Community ReUse Organizations to request a percentage of DOE Site Environmental Management Budgets for use in Community Transition Planning/Projects. The Ohio Valley Regional Development Commission requests 10% of DOE's Portsmouth Environmental Budget to be utilized for projects prioritized by OVRDC and its Community ReUse Organization, in addition to future requests for 3161 funding through the DOE Office of Worker & Community Transition. It is our expectation to request this percentage of DOE's Portsmouth Environmental Management/Project budget for the forthcoming fiscal year. Local governments have authority and responsibilities under the National Environmental Protection Act to exercise review of federal environmental management programs affecting local jurisdictions, and we plan to assist local governments in this effort.

- 2) It is evident that the FY'98 ADSRDS Development Process did not solicit stakeholder input during the initial Fall-Winter 1995 development stages of drafting project and environmental clean-up priorities for the Portsmouth and Oak Ridge sites. It is our understanding that stakeholder input will be solicited during these early developmental stages in future planning/budget years, and we offer our assistance in planning such future meetings.

- 3) We have comments regarding the Management Evaluation Matrix (MEM) which was developed to prioritize environmental projects by a ranking and scoring process. It is not evident to the Ohio Valley Regional Development Commission how the category percentages for Public Safety & Health (25%), Site Personnel, Safety & Health (15%), Environmental Protection (15%), Compliance (12%), Mission Impact (15%), Mortgage Reduction (15%), and Social, Cultural, Economic (3%) were arrived at, by whom, and with what rationale? It is our thought that even with personnel safety training procedures in place that the category of Site Personnel, Safety & Health (15%) should have as high a category percentage ranking as Public Safety & Health (25%)

A7

M-031

SALISBURY, DIANA, SARDINIA, OH
PAGE 6 OF 6

U.S. Department of Energy
FY'98 Prioritization Comments

OVRDC
Page 2

It is also the Commission's opinion that the remaining 50% of percentage rankings should be divided up equally among the other five (5) categories including an increase in the percentage ranking (to at least 10%) given to the category of social, cultural, and economic values. It is also our opinion that where mitigation is possible, that cost factors include appropriate amounts of funds to safeguard or remediate impacted social, cultural, and economic values.

- 4) It is our observation that the entry points for stakeholder input during the Environmental Management Budget Process do not correlate well among the November 15, 1995 "ADS/RDS Development Process" and "ORO - Specific Process" transparencies in the "Environmental Management Risk-based Prioritization Public Presentation," and the "Public Participation in Fiscal Year 1998 Environmental Management Budget" pamphlet.

Thank you for this opportunity to address these requests, concerns, and issues during this public comment period. Overall the proposed DOE budget/project prioritization process is a major improvement in that it does involve local governments, citizens and affected stakeholders in the evolving multi-billion dollar environmental cleanup missions at DOE sites throughout the nation.

Sincerely yours,

Steven T. Carter

Steven T. Carter
Economic Development Director

cc: Gene Gillespie, Portsmouth DOE Site Office
Thomas Grumbly, U.S. Department of Energy
Dan Neff, Governor's Office of Appalachia
Randy Runyon, Community ReUse Organization Chairman
Ohio EPA

M-031

09 10 08

The radionuclide emissions in this PEIS are assumed to be from single or multiple stack releases other than ground mass loading emissions. For stack releases of radioactive material, "semi-infinite plume" models such as GENII are appropriate for estimating radionuclide dispersion in air and subsequent human health effects. Also, the GENII code is widely used in DOE and NRC assessments of radiological human health effects at operating nuclear facilities.

09 03 05

The dispersion characteristics of an air pollutant plume depend on the source characteristics (release height, exit temperature, exit velocity), terrain over which the plume is emitted, the meteorology of the area, and the mixing height. There is no geographical preference for plumes with airborne pollutant loadings independent of the environmental parameters previously delineated.

The commenter's information relative to the conduct of atomic absorption analysis and historical studies of color infrared aerial photography to assess stressed vegetation is noted. Analyses to address possible impacts resulting from existing operations not related to the Proposed Action at ORR are not within the scope of this PEIS.

1/09.10.08

2/09.03.05

M-209

SANFORD & ASSOCIATES
1803 Primrose Avenue
Nashville, Tennessee 37212

Charles S. Sanford

9 April 1996

H. Mark Blauer, Ph.D.
Terra Tech, Inc.
5203 Leesburg Pike
Suite 900
Falls Church, VA 22041

Ref.: DOE Oak Ridge Environmental Report (ES/ESH-31/V1, p. 3.6)
 Re.: DOE Draft PVTIS Stockpile Stewardship and Management

Dear Mr. Blauer:

At the public meeting in Oak Ridge on April 2nd the public record contains our statements of disagreement. Please note that the enclosure at substantially the same time as DOE Oak Ridge (Y-12) has demonstrated the existence. Your information led to their nonexistence. Please review the referenced closure and assist me in correcting the public record. This clarification is necessary in order to disseminate accurate and timely information for public discussion.

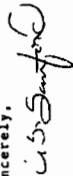
timely information for publicizing the Laboratory's HSEI-2025 computer model has been used as "semi-infinite plume" for calculating dispersion of airborne radioactive hazardous waste. The Hanford CEML computer dispersion model used at DOE Oak Ridge is based on the "semi-infinite plume". Please comment on the calculated emission loading, the actual downwind concentration, and the annual average daily dose versus an actual cumulative dose.

If you can acknowledge that there is a geographical "ridge and valley" preference for plumes with their airborne pollutant loadings, then I believe that we can deduce that bio-pneuma accumulation is along the ridge where it occurs downwind from the E-25 site along the East Fork Poplar Creek. The plume's decreasing temperature causes air pollution particulates to settle into the East Fork Poplar Creek Drainage Basin. The State Forester (private conversation) has stated that the Poplar Creek pine beetle infestation can be directly linked to waterborne and local airborne pollutants. Confirmation of this thesis can be made by atomic absorption analysis of the infested tree stock. Historical comparison can be made by correlating tree ring diseased tree infested aerial photographs with different solar wavelength than a healthy one.

SANFORD & ASSOCIATES, NASHVILLE, TN,
CHARLES S. SANFORD
PAGE 2 OF 4

Since public scoping meetings and comment meetings are inter-related, and since preceding DOE Records of Decision are a precursor to current Programmatic Environmental Impact Statements; then this comment letter should be applicable to not only the current PEIS, but it should also be capable of improving deficiencies in past meetings and past documents. Please forward this letter and your response to: T.S. Tyndell, government information coordinator, Federal Information Exchange (tityndell@fedix.fie.co); and other relevant program contact personnel. Please believe me to be cordially yours.

Sincerely,



encl.

xc. DOE ORR
EPA-4
DOE/OR Site Specific Advisory Board
Senator Bill Frist
Senator Fred Thompson
Congressman Bob Clement

M-209

SANFORD & ASSOCIATES, NASHVILLE, TN,
CHARLES S. SANFORD
PAGE 3 OF 4

OAK RIDGE RESERVATION ENVIRONMENTAL
REPORT FOR 1992

VOLUME I: NARRATIVE

Project director
F. C. Kornegay

Project coordinator
D. C. West

Technical coordinators

L. W. McMahon
Oak Ridge Y-12 Plant

J. B. Murphy
Oak Ridge National Laboratory

L. G. Shipe
Oak Ridge K-25 Site

Coordinating editor
W. S. Koncinski

Date Published: September 1993

Prepared by
Environmental, Safety, and Health Compliance
and
Environmental Management Staffs
of the
Oak Ridge Y-12 Plant, Oak Ridge National Laboratory,
and Oak Ridge K-25 Site

managed by
MARTIN MARIETTA ENERGY SYSTEMS, INC.
P.O. Box 2008
Oak Ridge, Tennessee 37831-6285
for the
U.S. DEPARTMENT OF ENERGY
under Contract No. DE-AC05-84OR21400

M-209

1992 Environmental Report Vol. 1, Oak Ridge

Table 3.1. 1992 Y-12 Plant airborne uranium emissions estimates*

Source of emissions	Quantity emitted	
	(kg)	(Ci)
Enriched uranium process exhaust (monitored)	0.5	0.006
Depleted uranium process exhaust (monitored)	0.5	0.006
Enriched uranium process exhaust (unmonitored)	0.1	0.004
Depleted uranium process and laboratory exhaust (unmonitored)	4.6	0.002
Enriched uranium room exhaust (unmonitored)	0.2	0.011
Depleted uranium room exhaust (unmonitored)	5.6	0.003
Total	17.8	0.060

*See Table 2.2 for off-site committed dose equivalents resulting from Y-12 Plant uranium emissions.

Emissions from the unmonitored process and laboratory exhausts were from 71 emission points. Two of the sources, Stack 112 and Stack 115, were sampled by impinger-type samplers because of the corrosive conditions in the stacks until the processes were shut down in January 1992. The 71 additional unmonitored process and laboratory exhausts are all categorized as minor emission sources, and estimates were generated according to EPA-approved calculation methods.

Emissions from room ventilation systems are estimated from health physics data on airborne radioactivity concentrations in the work areas. Any monthly concentration averages that exceeded 10% of the derived air concentration (DAC) were included in the annual emission estimate. The DAC is a radionuclide concentration level established by DOE orders. It is designed to protect the health of workers in radiation areas. The annual average concentrations are used with the design ventilation rates to arrive at the annual emission estimate. There were 12 ventilation areas from the enriched buildings and 15 ventilation areas from the depleted buildings where the average concentration exceeded 10% of the DAC in 1992.

Radionuclides other than uranium are handled in milligram quantities as a part of Oak Ridge National Laboratory (ORNL) and Y-12 laboratory activities at facilities in the Y-12 Plant. The releases from these activities are minimal and have a negligible impact on the total Y-12 Plant dose; therefore, only Y-12 Plant uranium discharges are shown in Table 3.1.

3.2.1.3 Discussion

An estimated 0.060 Ci (17.8 kg) of uranium was released into the atmosphere in 1992 as a result of Y-12 Plant processing operations (Figs. 3.1 and 3.2). Because the specific activity of enriched uranium is much greater than that of depleted uranium, about 85% of the curie release was from emissions of enriched uranium particulate, whereas only 2% of the total mass of uranium released was from enriched uranium losses.

As illustrated in Fig. 3.1, 1992 Y-12 Plant uranium emissions estimates in total curies were essentially the same as in 1991. This decrease reflects a reduction in Y-12 Plant process activities, continued improvements in administrative controls of the process activities still operating, and improvements in contamination control throughout the Y-12 Plant (notable in the room exhaust estimates from health physics data). Only five buildings contained areas where uranium concentrations exceeded 10% of the DAC in 1992.

Twenty-eight stacks with the greatest potential to emit significant amounts of uranium are equipped with breakthrough monitors, which alert operations personnel to process upset conditions or to a decline in filtration system efficiencies. The breakthrough monitors have been instrumental in helping to reduce excessive emissions from several enriched process areas over the past few years. When an alarm is received, operations personnel take prompt action to reduce or stop the emission, such as shutting down a

3-6 Airborne, Ambient Air, Meteorological, and External Gamma

SAVANNAH RIVER SITE CITIZENS ADVISORY BOARD,
SAVANNAH, GA, BOB SLAY
PAGE 1 OF 3

Savannah River Site
CITIZENS ADVISORY BOARD

A U. S. Department of Energy Site-Specific Advisory Board

May 16, 1996

Mr. Gregory Rudy
U.S. Department of Energy - MD-1
Office of Fissile Materials Disposition
1000 Independence Ave. S.W.
Washington, D.C. 20585

Dear Mr. Rudy:

Please accept the Savannah River Site Citizens Advisory Board's
recommendation on the Storage and Disposition of Weapons-Usable
Fissile Materials' Chief Programmatic Environmental Impact Statement.

Recommendation No. 20 was adopted on May 14, 1996, in Savannah,
Ga.

If you have any questions regarding the recommendation, please feel
free to contact me or the Nuclear Materials Management
Subcommittee Chair Tom Coughlin at (803) 835-5548.

Sincerely,

Bob Slay

Bob Slay
Chairperson

cc: Mr. Thomas Gurnsley
Dr. Marko Furr
Ms. Cynthia Koles
SRIS CAB Members

F-043

SAVANNAH RIVER SITE CITIZENS ADVISORY BOARD,
SAVANNAH, GA, BOB SLAY
PAGE 2 OF 3

Savannah River Site
CITIZENS ADVISORY BOARD

Recommendation No. 20
May 14, 1996

1. As all disposition options require decisions for implementation, it is essential to first focus on the safe and secure interim storage of the surplus plutonium.
2. The programmatic environmental impact statement (PEIS) indicates that there are no significant differences in the possible health effects between interim storage options at the various feasible locations. If this is the case, then the choices of locations should be made primarily on the basis of security and cost effectiveness.
3. Risks associated with the transportation of plutonium are primarily derived from the possibility of highway and/or rail collisions that could injure people, not health effects related to the material. Furthermore, established methods for movement of nuclear materials minimize the likelihood of accidents. This being the case, shipment of plutonium between sites should be acceptable in any alternative that provides the necessary safety, security and cost effectiveness.
4. We do not believe that deep ionization should be pursued as a disposition option because:
 - (a) it would face extreme political obstacles,
 - (b) it would be difficult to be certain that a contaminating event (underestimate theft could not develop over centuries ahead, and
 - (c) it might preclude the possible future recovery of the plutonium as a fuel.
5. The choice of a Mixed Oxide (MOX) option for the disposition of weapons plutonium should include the consideration of using commercial reactors if it is a cost effective measure.
6. The PEIS accepts without question the Spent Fuel Standard as the desired end result for both the verification and reactor options. However, it is questionable whether this is an entirely appropriate objective in making a long term disposition decision. As the overriding outcome of the program must be the minimization of risk that plutonium is diverted for weapons use, options that actually dispose of the material should be sought. The necessity of the Spent Fuel Standard can be questioned because of the following considerations:

SEE CUB Recommendation 02
F-043

08 03 00	Comment Number 1	Comment noted.
10 00 00	Comment Number 2	The human health risks of material transportations associated with the proposed Pu storage and disposition alternatives are evaluated and presented in Section 4.4 of this PEIS. The more detailed description of the methodology and supporting data for the analysis is presented in the Appendix G. Transportation of radioactive materials between sites includes health risks for both normal operations and accident conditions to the public and workers.
08 03 01	Comment Number 3	The Department of Energy recognizes the commentor's concern with the Borehole Alternatives. Decisions on the disposition alternatives will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.
06 02 08	Comment Number 4	This alternative is addressed in the PEIS.
01 04 00	Comment Number 5	The Department of Energy, in considering the Spent Fuel Standard, evaluated the adequacy of the Standard versus the greater degree of destruction achievable with other options such as the Deep Burn Reactor Option and the Accelerator Option. It was judged that the Spent Fuel Standard is adequate since it would convert the weapons Pu to a form making it as difficult to retrieve and reuse in weapons as the Pu contained in the much larger existing volume of spent fuel from commercial nuclear reactors. The Department of Energy concluded that the shorter disposition time achievable with more mature technologies was more desirable than the greater Pu destruction that could only be achieved over a much longer time period through the use of Deep Burn Reactors and Accelerators. The NAS also adopted the Spent Fuel Standard as the most acceptable form for conversion of weapon Pu.

SAVANNAH RIVER SITE CITIZENS ADVISORY BOARD,
SAVANNAH, GA, BOB SLAY
PAGE 3 OF 3

08 03 01 Comment Number 6

The Department of Energy acknowledges the commentor's support for SRS. Decisions on storage and disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

Recommendation No. 25 continued

- With both western Europe and former Soviet states being committed to the full recovery of plutonium's energy value, the benefit of the United States, a declared nuclear weapons power, setting an example against this is, at best, uncertain.
 - In the United States, security for and transparency of the country's interim management of its surplus plutonium from all sources should be achievable through a guarded repository combined with International Atomic Energy Agency (IAEA) safeguards.
 - Because the Spent Fuel Standard depends on relatively short lived fission products being mixed with the very long lived plutonium, there may be significant environmental, security and safety questions with a long term geologic repository.
- 5/01.04.00
cont.
- Therefore, any plutonium disposition plan should include exploring various options that go beyond the spent fuel standard and that actually reduce plutonium stocks. These would include reactor concepts that burn relatively high fractions of plutonium as well as ones that do not generate plutonium. The options presented in the PERS have the advantage of established technology and, perhaps, economic advantages in the near term.
- However, these other options, which are not tied to the Spent Fuel Standard and which consume plutonium, should be evaluated because of:
- The very precise long term benefits of superior waste management.
 - The environmental and supply uncertainties of fossil fuels.
 - The advantage of maintaining/enhancing the country's technology in an area of potentially great future importance.
- 7 If the evaluation process concludes that SRS is a preferred site for a plutonium storage and disposition program that is secure, safe, and cost effective, the SRS CAB supports and welcomes such a decision.
- 6/08.03.01

F-043

SCOTT, RICHARD G., AMARILLO, TX
PAGE 1 OF 1

Comment ID: P0032
Date Received: May 1, 1996
Name: Richard G. Scott
Address: 4305 Emil Street
Amarillo, TX

Transcription:

I am against the storage of plutonium or any type of storage of nuclear materials at the Pantex Plant in Amarillo. The Amarillo Chamber of Commerce does not speak for all of us. I am a World War II veteran and retired and have lived in Amarillo for 25 years. This is to let you know that a lot of the people in the city and in the area are not for any storage of nuclear materials at the Pantex Plant. Thank you.

1/08.03.01

08 03 01

Comment Number 1

The Department of Energy acknowledges the commentor's opposition to new missions at Pantex. Decisions on storage and disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

P-032

SEATTLE WOMEN ACT FOR PEACE WOMEN STRIKE FOR PEACE



SEATTLE WOMEN ACT FOR PEACE / WOMEN STRIKE FOR PEACE
1100 MARSHALL AVENUE, SEATTLE, WA 98104
(206) 461-1000, FAX (206) 461-1001, ACPW@SEATTLEWOMEN.ORG

Plutonium Disposition: PFI Issues and Concerns

Background

The U. S. Dept. of Energy (DOE) is conducting a Programmatic Environmental Impact Statement (PEIS) to determine what to do with "surplus" plutonium taken from dismantled weapons (Storage and Disposition of Excess Plutonium, *Final Environmental Impact Statement*). DOE is considering alternatives for the storage (safe storage) and disposition of plutonium, and has agreed to take comments and discuss this PEIS at the Plutonium Roundtable in Seattle on April 30. Further comments can be addressed to the DOE until May 7.

The good news is that plutonium is being removed from weapons - the process of disarmament has begun. The bad news is that keeping plutonium out of weapons and the environment is a formidable task. If we are going to meet our obligations under the Nuclear Nonproliferation Treaty to work toward disarmament, the plutonium stockpile from dismantled weapons will grow, so we must make a how to effectively deal with plutonium. Unfortunately, this PEIS so far is an inadequate analysis that does not facilitate informed public participation and openness principles. DOE is also considering alternatives that exacerbate plutonium disposition problems. It is very important that everyone concerned about nuclear proliferation, Hanford, or the environment, participate in this process.

The Problem With MOX

The use of plutonium in nuclear reactors is one of the disposition alternatives considered in the PEIS. First the plutonium would be blended into a mixed plutonium dioxide and uranium dioxide, or MOX, and then reactors would use the MOX to generate electricity. This alternative is strongly opposed by many people concerned with nuclear weapons and proliferation.

Plutonium in MOX can still be diverted into nuclear weapons. The International Atomic Energy Association (IAEA) considers MOX to be of "direct use" in nuclear weapons. This means that in the storage and transport and use in reactors, MOX must be secured and handled as weapons material.

Using MOX in reactors is against strict U. S. Nonproliferation policy. President Clinton has stated that "The United States does not encourage the civil use of plutonium and, accordingly, does not itself engage in plutonium reprocessing for either nuclear power or nuclear explosive purposes" (Sept. 1993). Developing MOX would drastically alter this policy, and encourage other countries to further develop plutonium use in reactors.

OFFICE USE
WOMEN STRIKE FOR PEACE
NATIONAL LEADERSHIP CENTER
1100 MARSHALL AVENUE, RM 10
SEATTLE, WA 98104



M-221

Comment Number 1

01 06 00

Comment noted.

Comment Number 2

08 02 00

The Department held eight public meetings to present the information contained in the Draft PEIS and to receive public comments. These meetings were advertised in a variety of ways to encourage full public participation. All comments submitted received equal consideration.

Comment Number 3

08 03 01

The Department of Energy acknowledges the commentor's opposition to the Reactor Alternative using MOX fuel. Decisions on disposition of weapons-usable fissile materials will be made based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

Comment Number 4

13 00 00

While the Pu is in the MOX fuel form, it is owned by the U.S. Government and would be subject to high standards of safeguards and security. The utilization of MOX fuel for Pu disposition is consistent with the President's Nonproliferation Policy. The surplus Pu in this form would be inspectable by IAEA, as appropriate.

SEATTLE WOMEN ACT FOR PEACE/WOMEN STRIKE FOR PEACE,
SEATTLE, WA
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The U.S. has no facility to develop a MOX fuel that could be run in a commercial reactor. A MOX fabrication facility would have to be built, or a current facility adapted. <i>But could he bring it to Hanford at a cost as yet undetermined?</i> Potentially, plutonium from around the country would be brought to a Hanford MOX fabrication facility.	6/06.01.01
Also, because there is currently no U.S. MOX fabrication facility, the PEIS assumes that if an existing light water reactor in the U.S. were to use MOX fuel, a "timely supply" of MOX fuel would have to be sought while an U.S. fabrication facility is developed. <i>This means DOE would send U.S. plutonium to Europe where MOX fuel would be developed and then sent back to the U.S. reactors.</i> (PEIS Summary, pp. 15, 32)	7/06.01.08
MOX in commercial reactors is a concern. Because MOX is a direct use weapons grade fuel, its use in commercial reactors would turn many utility nuclear energy plants into de facto weapons facilities. Increased security to prevent diversion of plutonium would be required.	4/13.00.00 cont.
High Level Waste generated from MOX is likely to be a serious problem. Commercial Spent Fuel generated from MOX reactors is supposed to go to a waste repository. The development of a repository has been fraught with difficulty. There is no guarantee that a suitable repository will exist for even more high level waste generated from MOX reactors. Simply stating that it will go to a repository, which does not yet exist, is not good enough. Hanford, as well as other sites in the nuclear weapons complex may end up with this waste if a repository is not available.	8/12.00.00
One alternative in the PEIS is to use Canadian CANDU reactors. According to the PEIS, Canada would then be responsible for the waste generated from the reactors. This encourages international commerce in plutonium (as does any alternative calling for plutonium or MOX shipment to and from Europe.) It may also set a dangerous precedent for the U.S. to give up control of weapons material to other countries, and it brings up a question of fairness. Why should Canadian citizens take plutonium, and waste that they did not develop?	9/01.03.00
Instead of MOX, plutonium should be declared a waste and immobilization alternatives developed. We should declare plutonium a waste and ensure that it is not used in weapons, or in reactors. By doing this in the U.S. we can also take a leadership role in preventing an international industry and commerce in plutonium that would be increasingly difficult to control.	10/01.04.00 11/01.06.00
Immobilization technologies should be vigorously pursued because these technologies provide the greatest ability to isolate plutonium from the environment and prevent proliferation of weapons material. Immobilization technologies should be developed shared and with other countries. Meanwhile, storage of plutonium should maintain plutonium so as to prevent harm to the environment and diversion into weapons. This means that risks involved in transport should be avoided.	12/08.03.01
Public Participation and Openness in the PEIS Process This PEIS lacks credibility because DOE has not furthered informed public participation in the process, or adhered to basic principles of openness.	2/08.02.00 cont.
M-221	

01 06 00 Comment Number 5

The President's Nonproliferation Policy states the United States will not recycle Pu. Burning weapons-usable Pu in reactors does not utilize the recycling process because the Pu in the spent fuel from this process will not be extracted for reuse in new fuel. This is consistent with U.S. policy since no Pu is being recycled. After a once-through fuel cycle, the Pu would be converted to a nonproliferation form as spent reactor fuel.

Decisions on disposition of weapons-usable fissile materials will be made based on environmental analyses, technical and economic studies, national policy considerations, and public input.

06 01 01 Comment Number 6

Comment noted. Hanford, along with other sites, is included as a "representative site" in DOE's consideration for analyzing a MOX fuel fabrication facility.

06 01 08 Comment Number 7

Comment noted.

12 00 00 Comment Number 8

The Department of Energy's recently released *Program Plan for the Civilian Radioactive Waste Management Plan* continues to maintain a year 2010 startup date for the NWPA-HLW repository. In the interim, the Fissile Materials Disposition Program has established that each alternative be evaluated assuming the entire inventory of material forms can be stored onsite until an NWPA-HLW repository is available.

01 03 00 Comment Number 9

Should the CANDU Reactor Alternative be selected with the ROD, agreement from the Canadian Federal and Provincial Government must be obtained, and a Canadian environmental assessment with public involvement must take place prior to implementation of this alternative.

SEATTLE WOMEN ACT FOR PEACE/WOMEN STRIKE FOR PEACE,
SEATTLE, WA
PAGE 3 OF 4

DOE secretly solicited the nuclear industry in pursuit of MOX. In December, 1995, DOE included in a Request For Expressions of Interest for Tritium Production, a solicitation in pursuit of commercial reactors that would like to use MOX. This action, taken between the Plutonium Disposition PEIS Scoping Hearings and the draft PEIS, was done without notice to the public or incorporation into the PEIS. Not until March 29, 1996 were Expressions of Interest (EOIs) released. This solicitation indicates a substantial furtherance of MOX despite the fact that DOE has not chosen a preferred alternative. No EOI process has been followed for any of the other disposition alternatives. Among EOI responses from utilities interested in MOX was one from the Washington Public Power Supply System (WPPSS) to use MOX at the WPPSS-2 reactor sited at Hanford.	13/08.00.00
DOE is not including cost studies and nonproliferation studies for public scrutiny along with the PEIS. Cost studies and nonproliferation studies are going on outside of this PEIS process. Since these studies will effect the outcome of the PEIS, they must be made publicly available so that citizens can make informed comments on the PEIS. Given that the need for action on plutonium disposition is based upon proliferation concerns (PEIS Summary, S-1 to S-4, and PEIS pp 1-4 to 1-6), there is an appalling lack of consideration of proliferation impacts throughout this PEIS. Also, full cost analysis of MOX, including cleanup costs of a MOX fabrication facility, and MOX reactor sites, and the costs of a suitable repository, should be done and available for public comment, as should cost estimates for all other alternatives.	14/08.00.00
DOE should extend the comment period and hold hearings in additional locations. Additional time is needed for the public to fully consider the PEIS, especially with additional cost and nonproliferation information. Hearings ought to be held in additional locations. For example actions at Hanford should require hearings throughout the Northwest (Seattle, Portland, Spokane, etc.). Now that some of the potential reactor sites for MOX are known, hearings in those areas should be considered.	15/01.06.00
cont.	14/08.00.00
16/08.01.00	

M-221

01 04 00 Comment Number 10

Comment noted. In accordance with NEPA, the PEIS evaluates a range of reasonable alternatives for the disposition of surplus Pu. The disposition of Pu in reactors using MOX fuel is considered a reasonable alternative and is, therefore, analyzed in the PEIS.

01 06 00 Comment Number 11

Comment noted.

08 03 01 Comment Number 12

The Department of Energy acknowledges the commentor's support for the Vitrification Alternative. Decisions on disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

08 00 00 Comment Number 13

The Preferred Alternative for Pu disposition as stated in the Final PEIS, includes Reactor Alternatives. Should a Reactor Alternative be selected at the ROD, DOE would issue a Request for Proposal to interested parties to solicit MOX fuel fabrication facility design and construction proposals.

08 00 00 Comment Number 14

In the interest of openness and more informed decisionmaking, DOE released Technical Summary Reports to the public as soon as they became available. Cost data, along with technical and schedule data, was provided in Technical Summary Reports of both storage and disposition in the summer of 1996. Results of the nonproliferation analysis were made available in the fall of 1996. Each of these analyses along with the environmental analysis and public input will be integrated into DOE's decisionmaking process.

01 06 00

Comment Number 15

The purpose of the Proposed Action is, in part, to establish the technical and program infrastructure that will enable the United States to take unilateral action or negotiate reciprocal actions with other nations for the disposition of surplus weapons-usable Pu. This PEIS addresses the environmental impacts of the reasonable alternatives for DOE's Proposed Action. Analyses of the cost, schedule, technical, and Nonproliferation Policy impacts are described in separate documents to support DOE's ROD. The cost, schedule, and technical analyses were made available for public review beginning in July 1996. The nonproliferation analysis was made available to the public beginning in October 1996. DOE also conducted a series of public meetings, prior to the issuance of the Final PEIS, to discuss the analysis of the Nonproliferation Policy as it relates to the Proposed Action and alternatives.

08 01 00

Comment Number 16

At the request of several organizations and individuals, the public comment period was extended to a total of 92 days. DOE held public meetings for scoping of the PEIS, as well as to provide information and to receive comments on the Draft PEIS as part of the NEPA process. Also, there were separate meetings to present DOE analyses of the nonproliferation aspects of the storage and disposition alternatives. Each of these sets of meetings were advertised in a variety of ways to encourage full public participation. DOE was also invited to participate in meetings held by local groups concerning the management of weapons-usable fissile materials in Seattle and Portland.

PANTEX WORKSHOPS April 22, 1996
Statement by William H. Seewald

Given the time allotted and the amount of information to be covered in these "workshops," remarks will have to be brief and abridged. However, notwithstanding the voluminous issues of great concern, some reference must be made to the process. Combining these three documents into a single opportunity for public input together with the very short amount of time much of the material has been available does justice neither to the NEPA process itself, nor to the people and agencies that wish to make reasoned responses to these documents. At least in the case of the Stockpile Stewardship as well as the Storage and Disposition, the documents are substantive enough to require careful analysis. It is also an unavoidable conclusion that the hearing process envisioned by NEPA has been transformed by DOE into a format they feel they can more effectively control -- that being the workshops. There is nothing wrong with workshops per se, but they do not meet the government's full responsibility to the public. That any of us at all are standing here to give testimony is only the result of citizen lobbying and the willingness of individuals to face down any obstacles to get their concerns into the public record.

One overriding point must be made regarding the Stockpile Stewardship and Management document even though one also must look at the cumulative impact of all three. It is clear that one of the significant premises compelling much of the decision-making process is the extraordinary attempt by the government to justify the continued operation of all three of the major DOE weapons laboratories, Los Alamos, Sandia, and Lawrence Livermore. The redundant laboratory capacity built during the cold war to spur competition can now only be characterized as an obscene abuse of the tax-payers' pocketbook. That such a political decision gets made in Washington is certainly no surprise, but it is incumbent on all of us to demand accountability in these decisions, to refuse to acquiesce in expedient political decisions as well as those that are based on bad science or a disregard for the natural resources of the Panhandle.

The Storage and Disposition document with its potentially momentous effect on our area is tragically flawed in three important areas. Number one, it doesn't really live up to the second part of its title. If long-term storage decisions are to be made, it seems absolutely essential that they be informed by a least a fairly concrete sense of the method of disposal as well as where that will happen, the time frame, and a reasonable consideration of the processes themselves. Secondly, this EIS, as with the others under consideration today, does not make a realistic distinction between strategic and surplus plutonium. The effort to maintain two thirds of all the plutonium ever produced in the U.S. as "strategic" evidences a less than serious commitment to disarmament as well as giving rise to the suspicion that some effort to generate commerce in plutonium is superseding the security need to immobilize this dangerous substance. Thirdly, this

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2/01.02.00

3/01.00.00

4/01.06.00

5/09.00.04

TX-055

08 01 00 Comment Number 1

The combining of meetings was done at the specific request of the public near several DOE sites and was not considered to have any negative impacts on the public review process. This request was based upon a need to hear how these documents were related to one another and to avoid requiring public attendance at several meetings spanning several days. The Draft PEIS and reference documents were made available in advance of the public meetings.

01 02 00 Comment Number 2

It is true that the long-term storage decision is related to the decision on disposition, especially with regard to timing which will impact the storage capacity required, and siting which should reflect the experience base and existing infrastructure at a particular location. DOE is confident that a decision can be made on disposition technology(ies) at the ROD, based on available data and environmental, technical, cost, schedule, and nonproliferation assessments completed to date. DOE is conducting small-scale tests and demonstrations of some Pu disposition technologies to remove uncertainties in their viability.

01 00 00 Comment Number 3

As defined in Chapter 1 (Figure 1.4-1) and in the Summary (Figure S-1) of the Draft PEIS, Pu in the strategic reserve is not surplus.

01 06 00 Comment Number 4

Comment noted. The amount of Pu determined to be "strategic" is beyond the scope of this PEIS. The Secretary's February 1996 Openness Initiative announced the amount of surplus Pu which supported the basis for the quantity analyzed in this PEIS.

09 00 04 Comment Number 5

Comment noted.

09 04 08 Comment Number 6
Potential impacts to groundwater quality are considered to be minimal at all facilities due to hazardous materials/waste handling and treatment/disposal Federal and State requirements.

5/09.00.04
cont.

document sets out options that would obligate plutonium processing, generating all kinds of new nuclear waste streams that have never existed at Pantex before. The document gives little or no consideration to the effects on Panhandle agriculture. Just the threat of contamination from these activities could devastate the marketability of our products. It furthermore remains unconscionable that apparently considerations other than the water needs of domestic and agricultural usage seem to preclude the realistic designation of the Ogallala as an aquifer eligible for the fullest protection of federal law and policy.

The Site-Wide EIS, an effort brought about by citizen lobbying of the Department of Energy, has not really been in the public domain long enough for a detailed consideration. Unfortunately, the substance of the document itself may require much less time than the gravity of the issues warrants. There is again no consideration of the most basic industry of the Panhandle, agriculture. The agreement to evaluate alternative storage sites for pits, specifically Department of Defense sites seems to have been an insubstantial one since that site is not included in the actual storage EIS. If, as implied in the analysis, Manzano mountain becomes ineligible because of the threat such a facility represents to Albuquerque, what are we to make of the government's concern for the residents of the Panhandle?

Sad to say we hear more about jobs than grave issues relative to safety and the protection of natural resources. But the best way absolutely to protect jobs in the Panhandle, whether in agriculture or at the Pantex Plant itself, is to keep the plant from becoming the next Rocky Flats. When that happens the only jobs will be for nuclear waste handlers and the state regulators who can only step in after the damage is actually done but who have no federally mandated authority over many of the processing functions being proposed. On top of the Ogallala Aquifer is the wrong place for long-term storage of plutonium, nuclear waste facilities, or any kind of plutonium processing.

6/09.04.08

TX-055

SHENNUM, MARY L., AMARILLO, TX
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2237 Peachtree Street
Amarillo, TX 79109
May 7, 1996

U. S. Department of Energy, Office of Fissile Materials Disposition
c/o SAC-FEIS (STD FEIS)
P. O. Box 23786
Washington, D. C. 20026-3786
FAX 800-820-5156

Dear U. S. Department of Energy
Office of Fissile Materials Disposition:

Thank you for the opportunity provided to the public to comment upon the draft Storage and Disposition Programmatic Environmental Impact Statement for Weapons-Usable Fissile Material. I understand that I may also comment on the Pantex Site-wide Environmental Impact Statement. I would like to say that I have found it difficult to prepare comments based on the draft documents, because I find them to be inconclusive in terms of what is being proposed for the Texas Panhandle, and I believe that others share this concern. Possibilities for Storage and Disposition are presented, but, partly because of unknown factors in safe storage and disposition of nuclear waste, high level or other, it seems that the FEIS is inconclusive. Perhaps the best proposal to such circumstances is to seek a safe storage program while furthering research for Pu and HEU at the sites where they are currently stored. This could result in an economy of funds in the long run.

I realize that an effort is being made to ensure the best results regarding the storage and disposition of high-level nuclear materials; however, if the best conclusions are not able to be reached at this time, further work may be necessary to insure the safety and security of our environment. Panhandle residents acknowledge the Ogallala Aquifer as the largest and most significant fresh-water resources in The United States. Isn't this very important as a factor in this study? The use of land for agriculture is prime in The United States; one in four Panhandle residents is employed in Texas agriculture. The Government could be aware that these are significant elements to be considered in a serious study such as this. Panhandle residents are also bottom-line aware of this, speaking on the issue or not. Our newspaper reflects upon agricultural concerns every day; if a problem is understood, there will be a public response in probability. The potential problem, as I understand it, lies in fully evaluating the environmental impact of storing more plutonium here, or working with it here in any way that will promote more active waste, dangers to our soil and water. There is an airport here, accepting international flight connections. Our area residents are proud of the Panhandle with good reason: We have been and are patriotic citizens.

There is reason for the Department of Energy to take every effort to sort out possible alternatives for safe and reasonable storage of weapons materials without evading problems at sites where clean-up work can now be managed (as we hope to presume is possible at this time at Pantex). Finding the best disposition for nuclear material should be accomplished before many more steps are taken; this would be a responsible thing to do before more decisions are made. It may be the long-term best decision to plan Storage and Disposition before moving more nuclear materials to this site, both in economic good sense and environmental sense.

Thank you for receiving these comments,

Mary L. Shennum

01 04 00 Comment Number 1

One of the screening criteria used for selection of reasonable alternatives to be analyzed in the PEIS is technical feasibility. To the extent possible, DOE will use existing and proven technologies for construction and operation of the storage and disposition facilities in the Proposed Action. Should new technologies be chosen for Pu disposition, DOE will demonstrate them prior to implementation.

09 00 04 Comment Number 2

Current and future operations at Pantex are not expected to affect the water quality of the Ogallala Aquifer. However, since this aquifer is being depleted (that is, the current withdrawal is exceeding the current recharge), Pantex operations contribute to the depletion of the Ogallala Aquifer and are analyzed in the PEIS. Also, current and future operations at Pantex are not expected to impact the soil used for agriculture and farming in the Pantex region.

1/01.04.00

2/09.00.04

1/01.04.00
cont.

F-031

SHILLINGLAW, FAUN, APPLETON, WI
PAGE 1 OF 1

June 7, 1986
1852 Palisade Dr
Appleton, WI 54915

US DOE

Office of Fissile Materials Disposition

I would like to comment on the PEIS - Engineering
Environmental Impact Statement on Storage and Disposition
of Weapons Usable and Fissile Materials which I
understand is based in Wisconsin - it is Public Service
at Kenosha is interested in it strongly oppose this
misguided proposal. MOX was never part of the
problem and incurs waste volume and
radioactivity. Vitrification is the only prudent
means for public safety. You have created
a waste problem. Don't put it at local plants
in our back yards. We already have enough
problems with leaks of spent fuel. Having
it placed at our nearby P. Beach plant
is just wish. These design methods need
great monitoring and careful handling. We
certainly don't want MOX fuel in Wisconsin
or any more nuclear waste creation. Please
put the waste in a form nobody can use for
weapons as soon as you can and don't
consider the MOX option. People in Wisconsin
are very concerned about nuclear waste
issue and MOX fuel will only add to
the problems we already are dealing with now.
Thank you,
Faun Shillinglaw

1/08.03.01

2/08.03.01

1/08.03.01
cont.

2/08.03.01
cont.

Comment Number 1

08 03 01

The Department of Energy acknowledges the commentor's opposition to the Reactor Alternative using MOX fuel. Decisions on disposition of weapons-usable fissile materials will be made based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

Comment Number 2

08 03 01

The Department of Energy acknowledges the commentor's support for the Immobilization Alternative. Decisions on disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

M-272

Ellen Winchester, Editor
Nuclear Waste Briefs, Sierra Club
2405 Delgado Drive
Tallahassee, FL 32304
May 3, 1996

Mr. J. David Nulton
Director, NEPA Compliance & Outreach
Office of Materials Disposition
Department of Energy
Washington, DC 20585

Dear Mr. Nulton:

The *Storage and Disposition of Weapons-Usable Fissile Materials Draft PEIS*, as summarized, raises more questions than it answers. Because the discussion of alternatives is very repetitive, my comments concern general considerations that apply to several alternatives.

First, the PEIS does not sufficiently satisfy the question of safe isolation of fissile materials, both those in the inventory and those produced by the processing of fissionable materials for long term storage (defined as fifty years). Instead, it indicates that for each of the options considered, "the annual radiological dose to on-site workers would be within radiological limits, and the dose to the population living within 80 km (50 mi) of the site would be within 100 person-rem per year." The unstated implication is that a population dose of within 100 person-rem per year (person-rem is the average dose to a person multiplied by the number of persons exposed) is a harmless dose.

In contrast, the widely accepted BEIR Report of the National Academy of Sciences concluded that there is no threshold radiological dose. Thus even a very small dose to an individual could cause some irreversible damage. If the population size in an area within an 80 km radius happened to be small, a 100 person-rem per year population dose could allow a great deal more for individuals than our 100-200 millirem annual background dose for the 360 millirem NRC has calculated as our average background dose). The PEIS seems to be saying that it is no worse to zap most individuals in a small population with a high dose, possibly lethal, than to spread the dose thinly in a large population.

Secondly, with regard to the dependence on MOX for waste vitrification and Pu burn-up, this question arises: Is the PEIS assuming a relaxation of US opposition to reprocessing? If so, this is a major shift in our non-reprocessing policy endorsed by every President from Ford to Clinton. Reprocessing has not been practiced by DOE since 1992, primarily because it would encourage world trade in Pu among countries depending on MOX and make nuclear proliferation more difficult to control. Why therefore does this PEIS operate on the premises that 1) burning mixed oxide fuel in reactors is an acceptable way to reduce stocks of plutonium or 2) that reprocessing is acceptable as a step towards providing the Pu content of spent fuel with greater stability through vitrification? If US power reactors burned MOX, our example for the rest of the world would be particularly poor.

We acknowledge that, should the US prohibition against reprocessing be lifted, an action the Sierra Club National Nuclear Waste Task Force would deplore, burning MOX would meet the spent fuel standard but how would DOE handle the resultant spent fuel? Is it DOE's expectation that it would be stored "as is" in a permanent repository? If so, that is a questionable option. After several decades of work on geologic isolation no permanent repository has been licensed, and there is no certainty that within fifty years repositories with a capacity to store all of the nation's high level waste and spent fuel, including commercial spent fuel, will be built and licensed.

09 09 08 Comment Number 1

The health impacts from proposed Pu storage and disposition facilities during normal operation and potential accidents are analyzed and presented in the Final PEIS. The results include the radiation dose and latent cancer risk for the MEI, population within 80 km (50 mi), and the involved workers and their applicable radiation limit. The radiation doses are regulated by individual dose; not collective population dose. Proposed 10 CFR part 834 (see 58 FR 16268) would require an ALARA program and would generally limit the potential annual population dose to 100 person-rem/yr from all pathways combined for DOE activities. This requirement does not imply that the radiation dose for the MEI could exceed the respective regulatory limit. Actually, this is an additional radiation limit to the exposed public.

01 06 00 Comment Number 2

Burning weapons Pu in reactors does not utilize the recycling process because the Pu in the spent fuel from this disposition action will not be extracted for reuse in new fuel. The Reactor Option will utilize a once-through fuel cycle. Spent fuel will be disposed of with other commercial reactor spent fuel. This is consistent with U.S. policy since no Pu is being recycled. Pu would arrive at the reactor in the form of fresh fuel which could not be used in weapons without extensive reprocessing to extract the Pu. Necessary safeguards and security during the MOX fuel fabrication process and at the reactors would be provided.

01 04 00 Comment Number 3

The spent fuel produced from burning MOX fuel in reactors would be essentially the same as spent fuel currently produced by commercial reactors. This spent fuel would eventually go to a permanent geologic repository as in the case of commercial spent fuel. Although it is true that no permanent repository has yet been licensed, this option would displace spent fuel that would have otherwise been created by commercial reactors.

1/09.09.08

2/01.06.00

3/01.04.00

M-214

II, on the other hand, the MOX spent fuel is reprocessed in a lengthy recycling effort to harvest and burn the remaining Pu, the problem of storing the resulting high level wastes will still remain. These problems of safe storage and handling of MOX wastes, whether the spent fuel is stored as is or will be reprocessed before storage, are not clearly addressed in this PEIS. The omission is serious. We should remember that spent fuel is rich in hard to handle radioactive isotopes of transuranic elements, especially americium and curium, much richer than its unburnt components. Moreover, reprocessing produces a greater volume of highly radioactive wastes than the spent fuel reprocessed.	A member of the public has to sympathize with employees of DOE as they struggle to find ways to isolate fissile materials. Not the least difficult problem is guarding against critically incidents, or even large scale disasters. These seem to be especially severe with regard to 1) the highly radioactive liquids produced by reprocessing, and 2) vitrification processes in which PuO₂ by not dissolving completely, may clump enough to cause critically. Nevertheless, the statement that "MOX fuel fabrication (but not reactor burning) at European facilities remains a reasonable short-term option . . ." sounds like an unacceptable effort to make an end run around difficulties and dangers (and possible environmental regulations) that should not be exported.	On the whole, the problems involved in reducing criticality risks seem equally hazardous, whether DOE opts (1) to vitrify Pu which, aside from stockpiles, would first require reprocessing to separate it from spent fuel (producing large volumes of highly radioactive liquid waste that must be perpetually kept cool) or (2) to carry out repeated cycles of burning and reprocessing MOX to reduce Pu stockpiles-but increasing the accumulation of HLW.	It may be that such hazards are reduced in vitrifying the immense amount of already processed Pu on hand in the PANTEX plant and Rocky Flats, which could presumably be fabricated into MOX. However, since the overall burnup of Pu in MOX is a slow process (because when Pu is loaded as fuel and consumed, some is also created by neutron capture by the U-238 in the mix), and more high level waste is being produced, burning the stockpiled Pu does not appear to be the perfect way to relieve the US of its embarrassment of Pu riches. As for vitrification, it may be as difficult to find long term storage sites for the vitrified but still highly radioactive Pu as it is for the unvitified stockpiles.	I have not commented on the deep borehole alternative because it seems highly unlikely to be a serious candidate for an immense fraction of the light DOE budget. In view of all the above considerations, if I were a decision maker in the choice of alternatives for DOE to pursue, I would favor the Long Term Storage alternative. However, I would add the proviso that, while making all of its existing facilities as safe to operate and as good neighbors as is now humanly possible, DOE should concentrate on developing methods of long term custodianship that will assure to future peoples the ability to maintain control of their fissile inheritance.	It would lighten the burden of those heirs of our rapid industrialization and wartime faith in technology if the US Department of Energy would be a world leader in phasing out the use of nuclear energy, with its accelerating accumulation of high and low level wastes, unless problems of both their long term isolation and short term custodianship can be solved.	Sincerely, <i>Ellen Winchester</i> Ellen Winchester for the Sierra Club National Nuclear Waste Task Force
4/01.06.00	5/08.03.01	6/01.02.00	7/08.03.01			M-214

01 06 00 **Comment Number 4**

The President's Nonproliferation Policy says the United States will not recycle Pu. Burning weapons Pu in reactors does not utilize the recycling process because the Pu in the spent fuel from this process will not be extracted for reuse in new fuel. This is consistent with U.S. policy since no Pu is being recycled. After a once-through fuel cycle, the Pu would be converted to a nonproliferation form as spent reactor fuel.

08 03 01 **Comment Number 5**

The Department of Energy acknowledges the commentator's opposition to MOX fuel fabrication at European facilities. Criticality controls will be provided in the technical details of the alternative(s) chosen for both storage and disposition. Decisions on storage and disposition of weapons-usable fissile materials will be made based upon environmental analysis, technical and economic studies, national policy considerations, and public input.

01 02 00 **Comment Number 6**

The Pu disposition process would not involve reprocessing. In the case of MOX fuel burning in reactors, the Pu extracted from the weapons-usable fissile materials (not spent fuel) would be made into MOX fuel and consumed in reactors in a once-through cycle. The MOX fuel would displace uranium oxide fuel. The spent MOX fuel then would be disposed of in a geologic repository like other spent fuel from reactors. In the case of vitrification, the vitrified Pu would also be disposed of in an NWPA geologic repository.

08 03 01 **Comment Number 7**

The Department of Energy acknowledges the commentator's support for long-term storage of fissile materials. Decisions on storage of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

M-214

SIERRA CLUB, VIRGINIA CHAPTER, VIRGINIA BEACH, VA,
ROBERT F. DEEGAN
PAGE 1 OF 1

08 03 01 Comment Number 1

The Department of Energy acknowledges the commentor's opposition to the Reactor Alternative using MOX fuel. Decisions on disposition of weapons-usable fissile materials will be made based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

 "When we try to pick out anything by itself, we find it hitched to everything else in the universe."
John Muir

June 7, 1996

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

Thank you for this opportunity to comment on the Programmatic EIS on Storage and Disposition of Weapons-Usable Fissile Materials. Please add my name to the mailing list for all future information on the PFIS.

The alternative of MOX reactor fuel to dispose of plutonium should be discarded. Using electric utility reactors for this purpose would be particularly unwise and raise problems of reactor safety in the steadily aging utility reactors. Moreover, the MOX reactor fuel would add to reactor site security problems and nuclear waste disposal problems.

Yours respectfully,



Robert F. Deegan
Nuclear Waste Issues Chairman

Robert F. Deegan
P.O. Box 23786
Washington, D.C. 20026-3786

1/08.03.01

M-271

SIMS, LYNN, PORTLAND, OR
PAGE 1 OF 3

Thank you for the opportunity to comment.

As far as I know USA is the only country considering public comment on this extremely important and historic decisionmaking concerning the worldwide dilemma of plutonium disposition. The inclusion of the public voice is certainly at least one step in the right direction, for after all, the bomb and its horrific legacy was created in the first place to protect and defend Democracy.

1/08.02.00

I hope the voices of the ordinary public, as distinguished from the industrial commercial or political public, will carry great weight. The nature of this problem is so profound and eternal that it is absolutely necessary to reach beyond the scientific, technologic, political and economic considerations. We must contemplate what decision will be wise, what will reflect the best nature of humankind and what will set the stage for the possibility of a reasonable and manageable vision of the future for generations upon generations to come.

What a task to comment upon. The multifaceted dilemmas, the complexities, the inability to estimate and predict consequences and situations and technology availability into tens of thousands of years into the future make policymaking quite overwhelming. Yet a path must be chosen. The day of reckoning as best we can with the legacy we have created has begun.

Certainly we cannot store plutonium for a long term, but in the short term it is necessary to provide funds for plant security, road and storage bunker maintenance, upgraded radiation detection equipment and alarms. To choose a long term storage option would indicate a stockpile policy that indicates we will value and use plutonium, which is a dangerous signal for the development of a rational and comprehensive world policy.

2/08.03.01

I believe the option to use plutonium in MOX plants is equally dangerous and UNWORTHY OF IMPLEMENTATION. In the first place policymakers and utility companies rejected this concept some years ago. Not only would we have to construct processing facilities, but we would have to assume the risks associated with fuel fabrication and assume the costs of licensing, transporting and safeguarding connected with this, let alone contending with the actual accounting for the amounts of plutonium in blended fuels and spent fuels plus the attendant disposition problems associated with the creation of more radioactive waste streams.

3/08.03.01

F-016

08 02 00 Comment Number 1

All comments provided to DOE carry equal weight. The comments will be analyzed and responses provided as part of the Final PEIS.

08 03 01 Comment Number 2

The Department of Energy acknowledges the commentor's opposition to continuing or long-term storage. Decisions on storage of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

08 03 01 Comment Number 3

The Department of Energy acknowledges the commentor's opposition to the Reactor Alternatives. However, NEPA requires that DOE look at all reasonable alternatives and, therefore, reactor burning must be considered. Decisions on the disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

SIMS, LYNN, PORTLAND, OR
PAGE 2 OF 3

01 06 00 **Comment Number 4**

Using surplus Pu as MOX fuel in reactors is a one-time event. This approach to Pu disposition is not planned as the beginning of a Pu fuel cycle. In the United States Pu will not be recycled, but will be used as a once-through fuel cycle and the spent fuel will be disposed of. Fuel will not be recycled to extract residual Pu for reuse as fuel. If Pu is not extracted for reuse, it will not be available for reuse in weapons.

08 03 01 **Comment Number 5**

The Department of Energy acknowledges the commentator's support for borehole disposition using the Immobilization Alternative. Decisions on disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

The Science and Global Security Disposition of Separated Plutonium Position Paper states that "commercial recycling of plutonium raises troubling ECONOMIC AND SECURITY issues. Even if plutonium is considered a "free good" (so none of the costs of reprocessing are charged to the cost of the MOX fuel), a utility using MOX will incur a cost penalty of \$200-\$500 per kilogram of MOX, assuming a uranium price of \$40 per kilogram...this cost differential implies a cost of recycling 100 tonnes of weapons-grade plutonium in MOX of about one half to one billion dollars. Extra inspection effort and physical security would also have to be extended to reactors using MOX fuel." This is a very expensive option in more ways than one.

It is obvious that the nuclear industry would welcome a second wind and a whole new generation of plants to extend this sagging industry, but our plants are aging, the true and comprehensive health, environmental and economic costs of nuclear power are becoming more evident. The whistleblowers are crying to be heard and the Nuclear Regulatory Commission is fast losing credibility with the public. Using the MOX option would be a bad decision. It would promote the siphoning of research and development monies away from long neglected R&D for alternative, sustainable energy resources. Using the MOX option would indicate to other countries that this sort of recycling, sort of distorted wise use is acceptable. How then could other countries ever be persuaded to stop any civilian use of plutonium? The MOX option creates more radioactive waste, maybe not quite as usable for a terrorist bomb, but none-the-less, it is a bomb, a terrible relentless assault upon the environment virtually forever. It is not acceptable. Any union of "military special nuclear material waste" with some kind of civilian, utility, industrial use for squeezing risky, costly energy dollars out of it is appalling and alarming and should be immediately withdrawn from the options list!!

There may be no such a thing as a safe, secure and environmentally sound storage and ultimate disposition solution. If vitrification is shown to be workable in this country it may provide a possibility of isolation from the environment and the hands of man. Immobilized disposition in a borehole pending finding a suitable site seems to make sense if security is assured.

If it is true that a focus of the U.S nonproliferation policy is to establish nuclear reductions, then it should be noticed that every nuclear power plant produces plutonium in spent fuel and it should be emphasized that Plutonium should be declared a waste, a liability and should be named illegitimate.

4/01.06.00

5/08.03.01

F-016

SIMS, LYNN, PORTLAND, OR
PAGE 3 OF 3

01 00 00 Comment Number 6

The purpose of the PEIS is to evaluate environmental impacts of alternatives for storage and disposition of weapons-usable fissile materials. The PEIS does not cover the much broader issue of an integrated nuclear policy in the United States.

It is true that this problem encompasses everyone from now on. We need more than intelligence, strategy, interdepartmental and international cooperation, more than adequate technology and sufficient funds, we need vision and wisdom and at this time it is those elements that also must be formulated and articulated.

It is time for a national comprehensive review to examine, coordinate, update and articulate an integrated nuclear policy. The U.S. has a chance to lead the world in the right direction in these serious undertakings and policymaking and we all pray we do a good job.

6/01.00.00

Respectfully submitted,

Lynn Sims
Lynn Sims
3959 NE 42
Portland, OR 97213
(503) 287-6329

F-016

SIMS, LYNN, PORTLAND, OR
PAGE 1 OF 1

June 7, 1996

J. David Nulton
Office of Fissile Materials Disposition
PO Box 23786
Washington, D.C. 20026

Dear Mr. Nulton,

As the deadline approaches for the formal comment on the DFEIS for the Storage and Disposition of Fissile Materials, I can not help again considering the enormity and complexity of the problem. Although I have already outlined opinions in a prior statement, I must now reiterate my strong opposition to the reactor alternative, even in combination with other options.

Not only would the reactor alternative legitimize plutonium in a commercial circuit, sending a message of its "value" to other countries, but that option would also create more streams of wastes, an unacceptable consequence. Moreover, once a system for such "reprocessing" is in place, it is naive to believe that it would ever end. It is a situation similar to "being a little bit pregnant". Either we choose to enter the dangerous plutonium age or we don't. Now is the time for historic and perhaps unalterable decision making.

Do not choose the reactor option for any part of "disposition". Mankind cannot manage it at this time.

Sincerely, ^

Lynn Sims

Lynn Sims
3959 NE 42
Portland, OR 97213
(503) 287-6329

1/08.03.01

08 03 01 Comment Number 1

The Department of Energy acknowledges the commentor's opposition to the Reactor Alternatives. However, NEPA requires that DOE look at all reasonable alternatives and, therefore, reactor burning must be considered. Decisions on the disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

SINGLETON, DON, AMARILLO, TX
PAGE 1 OF 1

08 03 01 Comment Number 1

The Department of Energy acknowledges the commentor's opposition to new missions at Pantex. Decisions on storage and disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

May 3, 1996

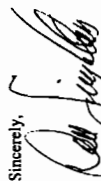
U.S. Department of Energy
Office of Fissile Materials Disposition
P.O. Box 23786
Washington, D.C. 20026

I am opposed to the storage of plutonium at Pantex.

Certainly you can find a place where there will be less damage to people, crops, the water table, and transportation routes when radiation is released than the Panhandle of Texas.

I know that this must be stored somewhere, but please. Not here.

Sincerely,



DON SINGLETON
6614 Roxton
Amarillo, Texas 79109

1/08.03.01

M-121

SINGLETON, DONNA
PAGE 1 OF 1

08 03 01 Comment Number 1

The Department of Energy acknowledges the commentor's opposition to new missions at Pantex. Decisions on storage and disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

May 4, 1996

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

I am opposed to the storage of plutonium and any other nuclear waste at Pantex. I feel that the risks to our water and agricultural products are too great.

1/08.03.01

I realize that we've gotten ourselves in a dilemma and there probably isn't anywhere to put it. Surely, though, more research will indicate a site which is less a threat to the nation's breadbasket. Here at Pantex is shortsighted and unconscionable.

Sincerely,


Donna Singleton

M-155

SLAGGLE, NORBERT, SHAMROCK, TX
PAGE 1 OF 1

3-862

08 03 01

Comment Number 1

The Department of Energy acknowledges the commentor's opposition to new missions at Pantex. Decisions on storage and disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input. Potential impacts to groundwater quality are considered to be minimal at all facilities due to hazardous materials/waste handling and treatment/disposal Federal and State requirements.

Comment ID: P0034
Date Received: May 1, 1996
Name: Norbert Slaggle
Address: Route 2, Box 83
Shamrock, TX

Transcription:

Just wanted you to know I oppose any further expansion of Pantex. Would urge you really to go the other direction. The agricultural impact a disaster could have would be terrible, not only on the water supplies in the Ogallala, but also in the contamination of land all around the area. Agriculture should come first. The location of nuclear weapons and storage should be in areas where there is little or no agriculture or not as nearly productive as agriculture is in the Panhandle of Texas. Thank you.

1/08.03.01

P-034

SMITH, DORIS
PAGE 1 OF 2

09 00 04 **Comment Number 1**

Radiological and chemical releases resulting from the Proposed Actions for normal operations would be within Federal and State regulatory limits. Therefore, the quality of agriculture in the Panhandle would not be affected, and agriculture-related employment in the Panhandle region would remain unaffected.

Also, current and future operations at Pantex are not expected to affect the water quality of the Ogallala Aquifer. However, since this aquifer is being depleted (that is, the current withdrawal is exceeding the current recharge), and since Pantex operations contribute to the depletion of the Ogallala Aquifer, impacts to the aquifer were analyzed in the PEIS.

Current and future operations at Pantex are not expected to impact the soil used for agriculture and farming in the Pantex region. All activities will be limited to Pantex and any impacts to the surrounding areas are within Federal, State, and local regulatory limits.

The PEIS includes analyses on the radiological and chemical impacts to workers and the public from both normal operations and accidents. These analyses also address the effects to local plant and animal resources as well as the effects on prime farmland.

08 03 01 **Comment Number 2**

The Department of Energy acknowledges the commentor's opposition to new missions at Pantex. Decisions on storage and disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

April 22, 1996
To the United States Department of Energy
Division of Environmental Management
P.O. Box 217186
Washington, D.C. 20526-3786

In a democracy the voice of all people should be listened to and considered in decision-making when policies so greatly affect grassroots America. Being concerned with the preservation of rural America, I am seriously troubled by the Programmatic Environmental Impact Statement prepared for the Department of Energy regarding Storage and Disposition of Weapons-Usable Fissile Materials.

Although I recognize the need to ensure safe, secure, long-term storage and disposition of the significant quantities of surplus fissile materials, which include plutonium (Pu) and highly enriched uranium (HEU), I believe this document fails to address very critical human issues.

In reviewing the alternative for the possible future of Pantex, it becomes very evident that all of the nation's weapons-usable plutonium not in active warheads would be stored at Pantex - 20,000 pits, plus much of the plutonium now at Rocky Flats Plant, Colorado; Hanford, Washington; Los Alamos, New Mexico; Savannah River, South Carolina; and the Idaho National Engineering Laboratory.

Before 1989, plutonium pits were never stored at Pantex. However, with the closing of Rocky Flats, Pantex is the interim storage site for at least 12,000 pits. Now this document proposes not only storing plutonium pits, but other more undesirable forms of plutonium.

Once stored at Pantex, this site is being considered for a plutonium pit dismantling/reconversion facility to cut the pits and process them into metal components. This facility would be a Pu facility, and it would be the only one of its kind in the world. It would make mixed oxide fuel (MOX) for the reactors of the Navy fleet from the plutonium pits. It would also be the only one of its kind in the world to store all of the mixed waste generated from all these processes. It is processing of plutonium which has contributed to the national environmental degradation which saddles our nation with a \$300 billion dollar cleanup problem.

This document states there would be few negative effects from doing any and all of those activities at Pantex. What the document fails to address is the impact on the good reputation of our agricultural products. Agriculture is the one industry which has consistently maintained the Panhandle for decades.

The food chain began here in the prime agricultural farmland of the Texas Panhandle. The most products and cereal grains produced here are shipped throughout the world. 25% of the Nation's beef is produced and processed here. The quality and reputation of these products would be placed in jeopardy with the siting of these processes at Pantex. Without proper planning and control, this site could become a source of contamination to the one of every four people employed in an agriculture related job, the heart to this High Plains trade area of those jobs would create waste problems.

A second issue the document fails to address is the location of Pantex above the Ogallala aquifer, the source of ground-water for the plains of Texas and across other Midwestern food producing states. With high explosives, chemicals, solvents, and radioactive materials, Pantex has contaminated the fine grained layer of water bearing sands above the Ogallala aquifer. With the downward migration of the recharging waters, how long will it be before the Ogallala itself will be contaminated?

Water and agriculture are the real wealth of the Texas Panhandle. Without them there would be no "Texas Panhandle." We cannot stand by and allow these resources to be compromised in any way. Food is the most important commodity we have - it must be protected.

Not all alternatives for siting these processes at other sites were analyzed in this document. Before choosing a preferred alternative, other options need to be considered. The siting of these missions at Pantex seems shortsighted and ill-considered. The environmental impact in conjunction with these processes has the potential to devastate this food producing region.

The Panhandle is too valuable to be used as a plutonium storage, processing and waste facility.

Sincerely,
Doris Smith
As a member of the Anti-Pan City and Planning Board, I appear to stand up for Pantex and strongly oppose any processing

1/09.00.04

1/09.00.04
cont.

2/08.03.01

M-112

2/08.03.01
cont.

M-112

Comments for PEIS Public Hearing on
Storage and Disposition of Weapons-Usable Fissile Materials
and
Stockpile Stewardship and Management
Amarillo, TX April 22, 1996
Doris Berg Smith

In a democracy the voice of the people is important in any decision-making policies regarding how our government will manage surplus nuclear materials and what forms of disposition are being considered. At this time it is vital that all the right questions are asked to protect the natural resources of this area for the future generations of not only the Texas Panhandle and the State of Texas, but of the world.

Many issues come into play in this very over-arching discussion. Not the least among them the cost to us the taxpayer to produce these documents and to find them flawed in many ways. These documents are lacking important information in many areas that make it virtually impossible to even begin the discussion.

The over-all cost to you and me, neighbor, for implementing the expensive options characterized in these documents are not prudent or wise. Why is the Department of Energy so intent on building new Research, Development and Testing facilities when the entire world is looking to the U.S. for leadership in an extension of the Non-Proliferation Treaty, and a zero threshold for a Comprehensive Test Ban. Instead the intent seems to be continue to build and test:

In the SSM-PEIS the scenario for these options, in a downsizing of the nuclear weapons complex, alone is expected to exceed \$30 Billion within a decade. These proposed new facilities are expensive! In this time of tight budget constraints, we the grassroots people should be exploring our Congressional leaders to stop all this massive spending on projects which lead to a build up in nuclear weapons. How many weapons do we need before we say, "That's enough?" How many nuclear warheads have we used?

It is time now, with the downsizing, to really actively pursue REAL DOWNSIZING. Do we want to continue to drag our country into further indebtedness by continuing nuclear weapons production? What is the real reason behind pouring dollars into defense - are we trying to keep war and war games going in the pretense that this is the way to build peace and to achieve economic development in rural communities across America? This is a 'sunset industry', my friends and neighbors, and needs to be managed as such.

What will the DOE and "We" do with all the waste that will be generated for at least the next 20 years? There are no licensed facilities to accept the wastes that are piled up on facilities throughout the DOE Complex at this time - why generate more than needs to be generated.

We are now faced with storage and disposition of surplus fissile materials, every option considered has tremendous waste streams attached to any option. Where will this waste go? It seems quite evident that the site that creates the waste, keeps the waste, will that saddle communities across this country with the economic and environmental problems of hosting waste treatment, storage and processing facilities?

1/12.03.00

TX-066

12 03 00 Comment Number 1

As noted in the PEIS, TRU wastes will be stored at the disposition site(s) until geologic disposal is available. The products from the Immobilization Alternatives would also store the immobilized Pu product until geologic disposal is available.

SMITH, DORIS BERG, AMARILLO, TX
PAGE 2 OF 2

In the PEIS's where were the impacts to the present agricultural economy which has built and sustained this area? Why were the risks to this economic stronghold not assessed? What will happen when we no longer produce food for people, where is our priority? Are bombs more important than food? We in agriculture strive to produce quality, wholesome food for the world population - one farmer feeds in excess of 131 people, yet the industry across the road from us builds bombs to annihilate people. Where is our sense of morality and respect for life? The documents fail to address the issue of the location of Pantex over the Ogallala Aquifer. Water and agriculture are the real wealth of the Texas Panhandle, without them there would be no "Texas Panhandle". Food is the most important commodity we produce - it must be protected. Not all alternatives for siting the processes for storage and disposition were analyzed - if Manzano Weapons Storage Site at Kirtland Air Force Base has facility that could store 30,00 pits, why was it not further characterized in the other documents? We say to you DOE, we want no storage of surplus plutonium at Pantex because it is dangerous and will lead to plutonium processing which results in additional waste generation and storage. No processing of plutonium at Pantex since every plutonium processing facility has created large amounts of contamination which has adversely affected the workers and the public. No waste disposal facilities at Pantex because we must preserve and protect the Ogallala aquifer. Historically the plutonium at Pantex has been in pit form, now with these documents all of a the nation's weapons-usable plutonium not in active warheads will be stored at Pantex - plutonium will come to Pantex from Rocky Flats, Colorado; Hanford, Washington; Los Alamos, New Mexico; Savannah River, South Carolina; Nevada Test Site; and the Idaho National Engineering Lab. We find this unacceptable to an agricultural productive area. No nuclear power reactors at Pantex - there is no need to construct them and the use of MOX fuel in them will not destroy the plutonium - it only creates more plutonium. Please do not turn the Texas Panhandle, known for its beef and cereal grain production, into a plutonium waste site. You have created enough of these tragic land problems across the United States - the is no need to create another one here. It is very much like putting poison in your cereal bowl! When this area becomes contaminated - what have we gained?	2/09.00.08
	3/01.05.00
	4/08.03.01
	5/09.04.08
	4/08.03.01 cont.
	TX-066

09 00 08

Comment Number 2

Any radiological and chemical releases resulting from the Proposed Alternatives would be within regulatory limits. Therefore, the quality of agriculture in the Panhandle would not be jeopardized, and agriculture-related employment in the Panhandle region would remain unchanged.

Also, current and future operations at Pantex are not expected to affect the water quality of the Ogallala Aquifer. However, since this aquifer is being depleted (that is, the current withdrawal is exceeding the current recharge), Pantex operations contribute to the depletion of the Ogallala Aquifer and are analyzed in the Draft PEIS.

Current and future operations at Pantex are not expected to impact the soil used for agriculture and farming in the Pantex region.

01 05 00

Comment Number 3

Combined storage of pits and non-pit Pu at the Manzano WSA was originally eliminated as a reasonable alternative in the Draft PEIS. After considering separate storage of pits from non-pit Pu, the option to store these pits at the Manzano WSA no longer appears unreasonable. The Manzano WSA was evaluated in the Pantex EIS and Section 2.1.3 of the Final PEIS. The Final PEIS was revised to clarify the consideration of the Manzano WSA for combined storage, and a description of the WSA was included in Appendix P.

08 03 01

Comment Number 4

The Department of Energy acknowledges the commentor's opposition to new missions at Pantex. Decisions on storage and disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

09 04 08

Comment Number 5

Potential impacts to groundwater quality are considered to be minimal at all facilities due to hazardous materials/waste handling and treatment/disposal Federal and State requirements.

SMITH, FRANK WHITE, BOULDER, CO
PAGE 1 OF 4

Mr. Thomas Grumbly - UnderSecretary of Energy Dept of Energy, 1000 Independence Avenue, S.W Washington, D.C. - 20585 My dear Mr. Secretary:	June 2, 1996 Ref: Enclosures Budget limitations promise to kill progress at Rocky Flats, so the former weapon silo proposal is an option for you to consider in the draft PEIS on Storage and Disposition of weapon-usable fissile materials. It is a budget-maker that could save costs of both storage capacity and security until a disposition facility is on line, and should be in our interest to reduce our cost for plutonium security in Russia.	1/14,00.00	An Environmental Impact Statement on Storage and disposition of weapon-usable Fissile Materials fails to propose observable U.S. and Russian storage of pits from weapon dismantlement and stabilized, canned weapon-usable fissile material now poorly-held at Rocky Flats and at Pantex. I propose feasibility study of their storage in Minuteman silos, until our surplus fissile materials can flow to disposition, not wasting U.S. or Russian silos by implosion.	2/15,00.00 I am writing to the President and Speaker and others, asking for feasibility study of Minuteman silos ... to capture great potential budget savings (silos having been found feasible for inert storage), as economical, hardened interim-storage sites already in place in both the United States, and in Russia. Minuteman silos here are such unique assets, young enough in their design-lives to furnish the U. S. and IAEA secure and accountable storage on both our own store of pits, and the stabilized canned inventory to flow from Rocky Flats. Perhaps with Russians witness of our sealing silos here they will match us, with silo storages witnessed there, until future means of disposition are in place and agreed upon for both inventories. I believe you should expect the Russians to also recognize silo storage as a budget-maker, with costs of both facilities and guarding them militarily a least controversial method for both nations for adequate defense and security, under IAEA oversight. My references show that some 1,000 Minuteman silos were built, and Nightingale recently reported only 138 wasted so far by implosion; they were shown robust, hardened, and easily servicable for loading missile-conformal casks of pits and canned fissile inventory, using Air Force missile-erection vehicles servicing sites today.

M-286

14 00 00 Comment Number 1

The use of existing facilities at non-DOE sites for storage has been considered but was eliminated in the screening process. The reasons for the elimination include cost, environmental, safety, and health concerns, and public and institutional acceptance. In the case of a DoD site, the additional costs and regulatory requirements for support facilities such as radioactive materials analytical laboratories, radioactive waste treatment, and nuclear material processing facilities associated with long-term storage could be very high. Furthermore, the public and other Government agencies would express concern over creating another DOE nuclear site when several are being phased out.

15 00 00 Comment Number 2

Comment noted.

SMITH, FRANK WHITE, BOULDER, CO
PAGE 2 OF 4

And please note that Warren AFB's silo-squadrons in Colorado-Nebraska-Wyoming were studied in the EIS cited for Peacemaker, which found the silo locations benign, most importantly as lacking seismic risk, but also benign on all other environmental parameters.

I am a Rocky Flats stakeholder on Plutonium and HEU vulnerability here, and have found that because of treaty requirements, your Manager has not pursued feasibility study of former weapon silos. Pits, however, are at the DoD/DoE interface, and both Departments have the duty (and need) to economize weapon dismantlement-and-storage in both the United States and Russia. Both should search out the most affordable means of addressing the holding of fissile materials in secure, monitorable and economical interim storage.

Minuteman silo infrastructure interim-storage may well help you work around the probable NIMBY contest(s) against interim-storage options inside the Weapons Complex, since remote silo sites, to their rural neighbors, are risks no greater than at present from armed weapons in their silos, to which they have become accustomed:

- Inert-gassed storage of pits and 50-year canned inventory, in a particular silo that now holds an armed weapon would in fact reduce specific risk to its neighbors; and
- the population at risk around inerted silos used for storage of pits and 50-year canned inventory, is greatly less than urban populations at risk in Denver and Amarillo, and thus justify silo interim-storage.

Storage of fissile materials in metropolitan Denver upwind of more than two million people and a seat of government, and the storage of pits in targetable, unhardened surface bunkers, already at storage capacity on Pantex, near Amarillo's population ... per the O.T.A. reference, fully justifies feasibility study of the former weapon silo alternative, for inerted interim storage of fissile materials in facilities kept under military surveillance of the highest order by the Air Force.

And in Russia, silos are also likely located far from metropolitan centers as well, a compelling point of mutual interest and justification which, if silos are found feasible, could easily lead to the mutual abandonment of treaty-required silo implosion.

1/14.00.00
cont.

M-286

SMITH, FRANK WHITE, BOULDER, CO
PAGE 3 OF 4

Mr. Secretary, I have no need-to-know, but the several others listed below do have the need to learn that engineering, security, risk and cost feasibility of weapon silos are in fact not feasible. And they will be eager to hear of the finding which, if positive, will save budget resources for many other pressing needs than interim-storage, under the severe budget limitations facing Defense and Energy.

Now finally, the Draft Environmental Impact Statement on long-term Storage and Disposition of Weapons-Usable Fissile Materials, under Dr. Canter's leadership, does not look outside DoE sites for storage options, but has recognized Denver's 2.3 million people at risk, and on-site storage at Rocky Flats terrorist-targetable. I hope you will direct the proposed feasibility study now, so that it will have been considered in the Secretary's Record of decision that will flow from draft DOE/EIS-0229-D, written without any off-site storage option. And naturally enough, the proposal is an inert-gas storage option against the new on-site storage facility you committed to build here for the Rocky Flats inventory of casked, canned, stabilized inventory.

You agree in principle, I am sure, that the feasibility of using former Minuteman silos, in cooperation with the Air Force, should not be overlooked for interim-storage, with near-term silo availability also assured for better security in the weapons-dismantlement program.



Frank White Smith
285 Mohawk Drive
Boulder, CO - 80303

At your disposal, and red-
badged for Rocky Flats Plant

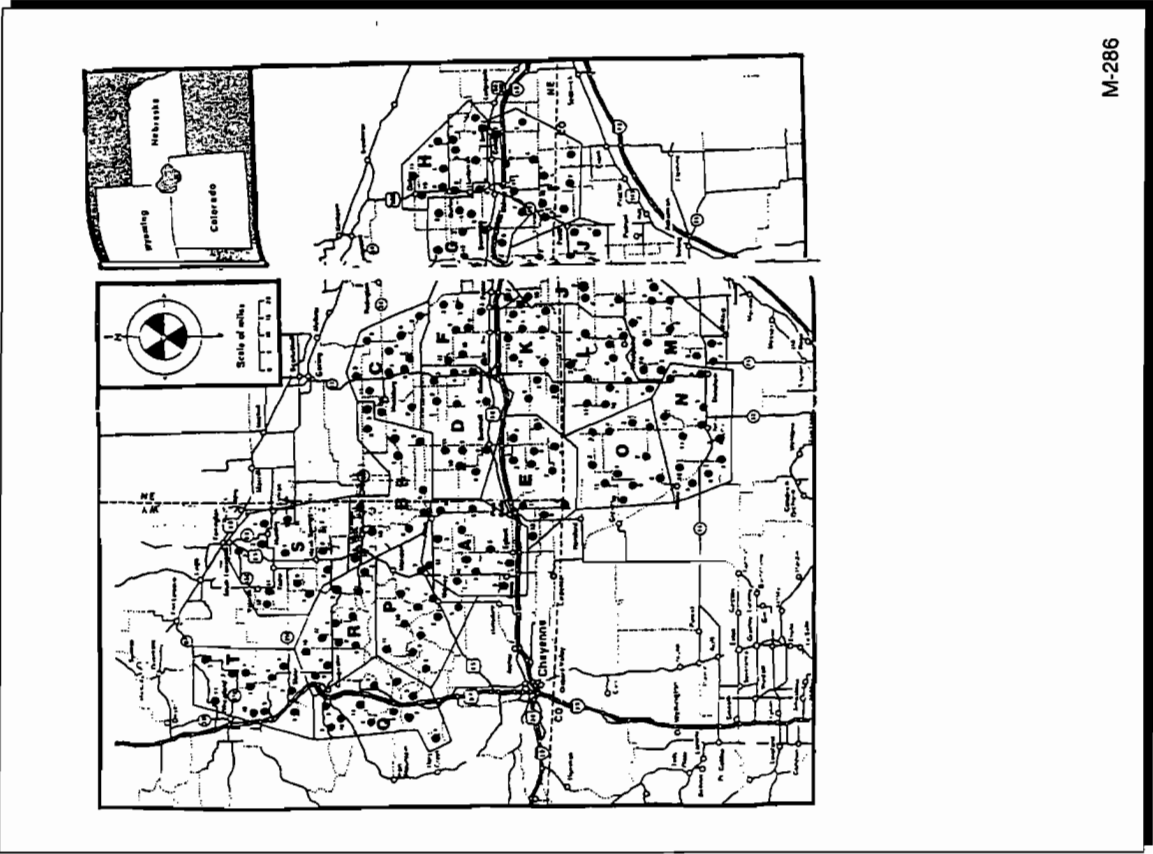
Copies to: President and Speaker, Sec. O'Leary and Perry; House Members Schaefer, Schroeder and Staggs; Senators Lugar and Nunn; Gov. Romer and Lt. Gov. Dr. Schoettler; Dr. Canter and Wm. Rask, DOE.

3/01.01.00

01 01 00 Comment Number 3

The Department of Energy's Proposed Action for storage of weapons-usable fissile materials includes moving the weapons-usable Pu out of RFETS and into one or more designated storage facilities at the selected storage sites. The planned schedule calls for these long-term storage facilities to begin operation in the year 2005. Interim storage of various nuclear materials at RFETS is addressed in the RFETS Interim Storage EIS.

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**SNAKE RIVER ALLIANCE, BOISE, ID,
ROBERT MCENANEY
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Snake River Alliance

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June 6, 1996

Mr. J. David Nulton
Director
Office of NEPA Compliance and Outreach
Office of Fissile Materials Disposition
U.S. Department of Energy
P.O. Box 23786

Washington, D.C. 20585
By FAX: 1-800-820-5156

Dear Mr. Nulton:

The Snake River Alliance is an Idaho-based citizens organization that has served as the citizen monitor of activities at the Idaho National Engineering Laboratory for the past 17 years. We have 1,200 individual, family, and business members, most of whom live in southern Idaho. On their behalf, I offer the following comments on the *Storage and Disposition of Weapons Fissile Materials Draft Programmatic Environmental Impact Statement*.

The Snake River Alliance's primary concerns are:

'The Disposition Draft PEIS Might Actually Promote Proliferation'
Some of the alternatives in the Draft PEIS do not reduce the risk of proliferation. In fact, two of the proposed disposition options might encourage further proliferation throughout the world. President Clinton's Presidential Decision Directive No.13 directs the United States to eliminate stockpiles of highly-enriched uranium and plutonium to reduce the global risk of proliferation. Two of the three proposed disposition technologies do not necessarily eliminate these stockpiles from being used in a bomb. Electrometallurgical reprocessing and placing plutonium in a reactor only recycle plutonium. Part of the problem is the stored weapons standard

1/01.06.00

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01 06 00 Comment Number 1

The purpose of the PEIS alternatives, including the Electrometallurgical Treatment Alternative and the Reactor Alternative using MOX Fuel, is to provide potential paths forward to make this Pu as inaccessible for weapons use as the much larger and growing quantity of Pu that exists in spent nuclear fuel (Spent Fuel Standard). These alternatives would convert Pu to a much more proliferation-resistant form for disposal in a geologic repository. While the residual Pu could be recovered through the reprocessing before disposal, such reprocessing of this form, it would be technologically difficult, costly, and would involve high radiation exposure; thus, theft or diversion would be highly visible and no more likely than retrieval of the Pu from the much larger inventory of spent fuel produced over many decades of commercial reactor operation.

used in the Disposition PEIS is practically interchangeable with the spent fuel standard. DOE claims that the spent fuel standard will ensure that stockpiled materials will be rendered inaccessible. The DOE also defines under the spent fuel standard spent fuel as a resource. By this logic, stockpiled material-plutonium and HEU might still be considered resources also. This is the case under the electrometallurgical treatment process alternative and the reactor category. Both technologies do not permanently dispose of the stockpiled material so that it can never be used again. Plutonium and HEU under both proposed categories could be recycled to be used in a bomb. Even if disposed material is never recycled in the U.S., it sets the wrong example for the rest of the world. If the U.S. does not permanently dispose of stockpiled material, it makes it more difficult for the U.S. to implement global policies with other nations to reduce the world's stockpiles of bomb grade material. Even a worse message would be sent if DOE chooses to implement the reactor category in the Disposition PEIS. For one, it directly violates the President's directive that the "United States does not encourage the civil use of plutonium." Using plutonium or HEU in a reactor only encourages a plutonium-based economy in the U.S.; and for the rest of the world also. Potential bomb-building countries will find it far easier to justify the use of plutonium-based reactors under the guise of a civilian program because of the precedent set by the U.S. It would be far more difficult for the U.S. to discourage potential new bomb building countries from abandoning their own plutonium reactor programs if the U.S. cannot eliminate its own use of plutonium in a reactor program. The DOE should use the Nuclear Waste standard in order to ensure that the disposition program meets the President's own directive. DOE should remember that a major reason we are dealing with the mess of stockpiled materials in the first place is because it applied the spent fuel standard to irradiated reactor material. So long as we consider spent fuel as a resource, there will always remain the possibility that spent fuel could be one day reprocessed again in order to extract the plutonium and the HEU for bomb building purposes. It is not unreasonable to think that the same type of logic that justified reprocessing spent fuel in the past is now being applied to plutonium and HEU in the Disposition PEIS. So long as these materials are defined as "resources," DOE cannot adequately carry out the mission of forever ensuring that these materials cannot be used in nuclear bombs. The Disposition PEIS Does Not Justify Disposal Alternatives The Disposition PEIS ruled out a number of technologies because it was found that certain technologies just could not make it to the table as working proposals for the draft Disposition PEIS. A number of deep	2/01.04.00
	3/01.06.00
	4/01.06.00
	5/01.04.00
	6/01.05.00

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01 04 00 Comment Number 2

Technologies that meet the Spent Fuel Standard will convert surplus fissile materials to a form that is inaccessible for reuse in weapons. HEU is considered a resource if it can be blended down and used in fresh fuel for nuclear reactors. Although Pu can also be used in fresh fuel (MOX) for nuclear reactors, it is not generally considered a resource because uranium fuel can be produced more economically. The cost of burning MOX fuel in a reactor, although not as economical as all uranium fuel, is somewhat reduced because of the revenues produced from electricity production. However, HEU and Pu are not considered resources after they have been burned in reactors and have achieved the Spent Fuel Standard.

The Electrometallurgical Treatment Alternative would place Pu into a glass-bonded zeolite (GBZ) waste form that would be sent to a geologic repository for disposal. The Pu under this alternative would not be used in a reactor.

01 06 00 Comment Number 3

Comment noted.

01 06 00 Comment Number 4

The President's Nonproliferation Policy states the United States will not recycle Pu. Burning weapons-usable Pu in reactors does not utilize the recycling process because the Pu in the spent fuel from this process will not be extracted for reuse in new fuel. This is consistent with U.S. policy since no Pu is being recycled. After a once-through fuel cycle, the Pu would be converted to a nonproliferation form as spent reactor fuel.

Decisions on disposition of weapons-usable fissile materials will be made based on environmental analyses, technical and economical studies, national policy considerations, and public input.

01 04 00 Comment Number 5

The spent fuel that would result from burning weapons-usable fissile materials in reactors is not considered a resource, nor is existing spent fuel from domestic commercial nuclear reactors. Reprocessing of materials that meet the Spent Fuel Standard is not proposed under the disposition effort.

01 05 00 **Comment Number 6**

The process and justification for selection of technologies evaluated in the PEIS are described in a separate Screening Report prepared by DOE and in Chapter 2 of the PEIS. A number of alternatives involving placement of materials below the earth's surface were considered, including emplacement in the sub-seabed and injection into the earth's magma. There is little data available to support these options and the retention of Pu in these media is questionable. A major concern would be the environmental impacts of any release of Pu materials following emplacement. Furthermore, the time and cost of developing these technologies would be significant and the outcome uncertain. It is expected that regulatory requirements would be extremely difficult to achieve, and that these would be internationally sensitive particularly if international waters were involved. Therefore, these types of technologies were eliminated from consideration. Although the Borehole Option considered in the PEIS is less mature than the Reactor and Immobilization Alternatives considered, it was found in the screening process to be mature enough for inclusion as an option in the PEIS. It was also recommended for study by the NAS in their 1994 study on the *Management and Disposition of Excess Weapons Plutonium*.

01 02 00 **Comment Number 7**

The PEIS analyzes six DOE sites for many of the facilities, and generic sites for some facilities such as the borehole complex. All facilities are described in terms of their conceptual design. The intent of the environmental analyses is to provide a bounding condition for the impacts, which would be sufficient for comparison of the alternatives at this time. Once the disposition technologies have been selected for implementation, DOE would invest in more detailed facility designs, testing and demonstrations, and appropriate site-specific tiered environmental analyses to help determine which site or sites (and which location or building within each site) would be used for disposition. To conduct detailed designs and analyses at various sites for all the technologies at this early stage is not necessary at the programmatic level.

geologic alternatives such as "Injection Into Continental Magma" or "Emplacement in the Sub-Seabed" were found to be "immature and very immature." There certainly is no dispute that a number of similarly ruled out options are indeed immature. But it is then even more difficult to comprehend why those technologies that made it to the draft are any more "mature" than those that were ruled "immature." The Disposition PEIS does not provide an adequate background nor are there any accompanying studies that elaborate why alternatives like the deep-bore hole option are mature. It would not be that daring to assert that the current disposition proposals are indeed "immature" also. The deep-bore hole suggestion has no associated real world experience that can at all justify whether it will ever be an adequate option. The same also applies to the reactor category and the electrometallurgical reprocessing proposal. Not a single disposition option has truly been tested in real world terms. It is safe to say that it is immature of DOE to go ahead and proceed with technologies that have not been tested.

What is more troubling is the inability or the unwillingness of DOE to adequately anticipate all of the future impacts of its disposition alternatives. The disposition PEIS claims that if and when any of these disposition technologies are implemented, any unforeseen impacts will be addressed by future site specific PEIS's. The Disposition PEIS should address any impacts associated with disposition technologies now, not later. To implement a disposition option with a wait and see attitude is simply unacceptable. If there are any impacts concerning any of the alternatives, they must be addressed in this document. Either DOE is not providing the whole story in the Disposition PEIS, or it understands that the breadth of this PEIS at this point is truly in the immature stage. Whatever that answer might be, DOE does not address the actual impacts of any of these disposition technologies. There is simply not enough information to go on to make a sound decision about plutonium and IIEU disposition.

Specific Concerns About the Electrometallurgical Treatment

Alternative at Argonne-West
There are major contradictions within DOE policy when it comes to dealing with materials that are potential proliferation risks. In one instance DOE states that reprocessing to generate fuel for a reactor is an incompatible option for disposition because "during reprocessing to separate Pu from spent fuel to fabricate more fuel, there are stages in the processing and handling when weapons-usable materials are more vulnerable to theft or diversion than the stored weapons standard." Despite this kernel of truth, the DOE has decided to go ahead with a reprocessing technology whose original purpose was to do exactly that-generate fuel to be used in a

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cont.

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reactor. The Alliance recognized this contradiction in its comments addressing the Electrometallurgical EA Demonstration Project in April 1996:	8/11.00.08	Pyroprocessing is the reprocessing portion of the IFR program transformed imperfectly into a spent fuel "management" program. Since it was in large part spent fuel reprocessing that led to cancellation of the IFR, Argonne has been trying to mask the program ever since. In fact, the National Academy of Sciences and the Secretary of Energy are among those who have stressed that plutonium separation was the intended use of the technology when it was part of the Integral Fast Reactor.
It is illogical for DOE to proceed with a project like electrometallurgical reprocessing that generates materials that are serious proliferation risks and then possibly go ahead with the electrometallurgical reprocessor at ANL-West as a treatment for plutonium disposition also. In fact, DOE is using the current Electrometallurgical Demonstration Project as justification for possibly using ANL-West as a treatment site for disposition. In other words, it is using a reprocessing technology, which DOE admits is a serious proliferation risk, in order to champion disposition to avoid proliferation. Again, DOE is sending the wrong message to the rest of the world—that it is all right to reprocess as long as it is for environmental management reasons. So long as the stored weapons standard is practically identical to the spent fuel standard, DOE will continue to run into contradictions like these. In assessing the cumulative impacts of the proposed actions, the PEIS lists those site-specific reviews that support the proposals in the Disposition PEIS: Additional site-specific environmental reviews are currently being prepared by DOE. A listing of these reviews is provided in Table 1-4 2. In particular, the site-specific, site-wide EIS's being prepared cover continued operations for some of the sites evaluated in the Storage and Disposition PEIS. (1-9) The document that is listed that supports actions for INEL is the <i>Electrometallurgical Treatment Research and Demonstration Project at the Fuel Conditioning Facility at ANL-West Environmental Assessment</i>. This is an EA, not a site-specific EIS like the rest of the documents in the table. It is disingenuous at best to pass off the EA as anything but an EA. First, the Electrometallurgical Demonstration Project cannot sufficiently support the	9/08.03.01	10/01.06.00
The document that is listed that supports actions for INEL is the <i>Electrometallurgical Treatment Research and Demonstration Project at the Fuel Conditioning Facility at ANL-West Environmental Assessment</i>. This is an EA, not a site-specific EIS like the rest of the documents in the table. It is disingenuous at best to pass off the EA as anything but an EA. First, the Electrometallurgical Demonstration Project cannot sufficiently support the	11/11.01.08	

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actions that take place in the Disposition PEIS. Its intent is to deal with the reprocessing of a limited amount of spent fuel. Second, the Electrometallurgical EA only examines a demonstration project. It does not address the environmental impacts of disposition or the current waste management abilities of ANL-W to handle the significant increase in waste that a disposition alternative would undoubtedly bring. Third, all of the other supporting documents in Table 1-4-2 are EIS's, most of them site-wide EIS's that attempt to address the major impacts associated with waste management missions at the other defense sites. There is a major difference between an EA for a demonstration project and a site-wide EIS. An EA, especially the Electrometallurgical EA, cannot adequately address associated impacts let alone justify that a major action like disposition can be sufficiently supported at the INEL site. Besides that, the current PEIS does not elaborate upon how much potential plutonium could be disposed of at ANL-W, whether these wastes would remain in a consistent form (as was a concern of the NAS), and Argonne's actual storage capabilities. All of these impacts needed a far more serious study before the electrometallurgical treatment process should have even been considered as an option.	11/11.01.08 cont.	05 03 03 Comment Number 12	The Electrometallurgical Treatment Demonstration EA is not being used and should not be construed as justification for Pu disposition. Electrometallurgical treatment, which would be performed at any site, is a reasonable alternative for Pu disposition and is analyzed since all reasonable alternatives must be analyzed under the CEQ regulations implementing NEPA.
The Disposition PEIS Limits Comments on the Electrometallurgical Treatment Process Possibly one of the most fundamental principles behind the NEPA process is that an PEIS like this must solicit comments from any interested individual or group that has a vested interest in the PEIS's outcome. These comments mold the final outcome in the Record of Decision. The Alliance believes that the ability to comment about the future impacts of the electrometallurgical treatment process have been severely compromised-if not totally nullified-by the completely insufficient analysis of the electrometallurgical treatment process in this PEIS. In fact, the actual electrometallurgical treatment process is not analyzed within the PEIS. This is evident by the fact that it is not even cited as source in the references section. A large part of this might have to do with the obvious fact that the DOE did not complete its evaluation of the current Electrometallurgical EA draft proposal by the time the PEIS was distributed. DOE cannot excuse itself from this mere circumstance by stating that, "The National Academy of Sciences recently completed an evaluation and draft report on this subject. The results of this evaluation will be considered in the preparation of the Final Storage and Disposition PEIS." Well, that just does not cut it. DOE does not maintain the privilege or the right to withhold one's ability to analyze a proposed project's impact. If the EA is not completed by the time of the PEIS's publication so that the public cannot make sufficient	14/05.03.08	05 03 08 Comment Number 14	More specific information and clarification regarding the basis for analyzing the Electrometallurgical Treatment Alternative is included in Section 2.4.4.3 of the Final PEIS. The data input for the environmental analysis for the Electrometallurgical Treatment Alternative is reported in reference LLNL 1996b.
did not complete its evaluation of the current Electrometallurgical EA draft proposal by the time the PEIS was distributed. DOE cannot excuse itself from this mere circumstance by stating that, "The National Academy of Sciences recently completed an evaluation and draft report on this subject. The results of this evaluation will be considered in the preparation of the Final Storage and Disposition PEIS." Well, that just does not cut it. DOE does not maintain the privilege or the right to withhold one's ability to analyze a proposed project's impact. If the EA is not completed by the time of the PEIS's publication so that the public cannot make sufficient	15/11.01.08	11 01 08 Comment Number 15	The <i>Environmental Assessment for the Electrometallurgical Treatment Technology</i> was in preliminary draft form when the PEIS was ready for distribution. A review of the preliminary draft indicated that there was no evidence to support the rejection of the Electrometallurgical Treatment Alternative as a reasonable alternative for Pu disposition from the environmental perspective. Section 2.4.4.3 of the PEIS describing the Electrometallurgical Treatment Alternative was revised to provide the results of the NAS report and to include the decisions made from the Electrometallurgical Treatment Demonstration EA.
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comments about a proposed project's impacts, DOE should realize that this particular project cannot be analyzed in this PEIS. And even if DOE does include the conclusions made by the NAS on the Electrometallurgical EA demonstration project in the final draft, DOE is then confusing reprocessing a set amount of EBR-II fuel rods with the proposed electrometallurgical treatment of plutonium scantily described in the Disposition PEIS. One would think there is a significant difference between reprocessing spent fuel and treating surplus plutonium. If DOE proposes to electrorefine plutonium while adding cesium-137 as a radioactive barrier in order to create a new waste form at ANL-West, DOE simply must evaluate that action as a new and unique impact. Not only that, DOE should also evaluate the cumulative impacts that the current proposal to electrometallurgically treat plutonium and the Electrometallurgical Demonstration Project might have together upon the whole INEL complex in a separate PEIS.	16/08.03.00 cont.
DOE Fails to Analyze the Cumulative Impacts of the Proposed Action Under the proposal to build a MOX reactor or evolutionary MOX reactor at a current DOE site, the DOE properly analyzes the various impacts site by site. For instance, the customary NEPA checklist of Land Resources, Site Infrastructure, Air Quality and Noise, Water Resources, Geology and Soils, Biological Resources, Cultural and Paleontological Resources, Socioeconomics, and Public and Occupational Health and Safety are all applied to each site on a case by case, individual basis. But when we get to the most important checklist item for this PEIS, "Waste Management," the DOE chooses to analyze this impact generically. Rather than looking at the waste management impacts at Hanford or Savannah River for example, DOE provides a generic analysis of the possible impacts for all of the sites. In one turn, DOE analyzes each site as if they have unique concerns, but then states that the waste management impacts can be applied to each site as if the waste management capabilities and the associated impacts are the same for every sight. DOE knows better than this. Certainly Hanford has different waste management concerns than Oak Ridge or the INEL. To claim otherwise illustrates that DOE is not actually willing to elaborate upon the impacts in this Disposition PEIS, or DOE just does not know what the impacts might be. Either way, the Disposition PEIS over and over again fails to analyze all of the cumulative impacts for each particular disposition alternative. This is exacerbated by the fact that in the Disposition PEIS, one site might host more than one disposition alternative listed in the PEIS. For instance, one DOE site could end up vitrifying plutonium while also implementing a separate program to burn plutonium in a reactor. The Disposition PEIS does not even look at the magnified impacts that would	17/09.11.08
	18/01.04.00

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08 03 00 Comment Number 16

The Finding of No Significant Impact (FONSI) for the *Environmental Assessment of Electrometallurgical Treatment* was approved on May 15, 1996 after the public comment period and public meetings. The electrometallurgical treatment process is analyzed in the PEIS as a reasonable alternative for Pu disposition. The PEIS has a different purpose and need from that of the limited demonstration for treatment of Experimental Breeder Reactor (EBR)-II fuel. Should the Electrometallurgical Treatment Alternative be selected in the ROD, further site-specific environmental analyses will be performed, as appropriate.

09 11 08 Comment Number 17

The waste management analysis assumed generic greenfield facilities for the disposition alternatives and Consolidation and Collocation Storage Alternatives to meet programmatic requirements for total storage capacity and disposition throughout. For the Upgrade Storage Alternative, site-specific facilities were determined to meet site-specific storage requirements. The resultant waste generated from each of these facilities was added to the existing site No Action waste being generated and compared to site waste management infrastructure (storage, treatment, and disposal capacities). Each site with a clear adequate capacity or lack of capacity to handle a particular waste stream was highlighted in the waste management analysis. In the site selection process, DOE will consider the experience and current waste management infrastructure of all the sites. Coordination of all waste activities being proposed at each site is being done by DOE's Waste Management Program. The cumulative impacts section of the PEIS has a site-specific analysis for waste management of storage alternatives. A generic disposition cumulative impacts section was added in Section 4.7 of the PEIS for the disposition alternatives. Site-specific disposition waste management cumulative impact analyses will be performed in future tiered NEPA documents, as appropriate.

occur if two or more alternatives are implemented at one DOE site. Waste management concerns should not just address what types of wastes will be generated, but how each site can accommodate future storage of wastes on top of the wastes that are already managed at all of the affected DOE sites. These decisions cannot be made in a vacuum. Past expertise in dealing with similar waste forms should be considered in this analysis. If and when DOE decides upon a course of action, the PEIS that justifies the action has to take into account past experiences. For instance, if DOE decides upon collocation, the final PEIS must fully examine past experiences of the Oak Ridge and Pantex complexes in their struggles to deal with consolidation of their stockpiles of materials. If mistakes were made in the past, DOE cannot deny that these problems could arise again to impact various sites. In September 1994, DOE found over 1,300 violations or nonconformances for the handling and storage of HEU at the Oak Ridge Reservation. DOE's infrastructure has not changed dramatically since those storage problems were identified at the Oak Ridge Reservation. If anything, spending for the DOE has been on the decline since September 1994. The same infrastructure that allowed these problems to occur is the same infrastructure (with fewer resources at hand) that will be implementing a disposition policy. Hence, problems that have occurred in the past could arise as problems in the future.

Conclusion

The Snake River Alliance would like to emphasize that we believe the disposition of weapons-usable material is an extremely important mission for this country to embark upon. Disposing of this material so it meets a spent fuel standard is at least a step in the right direction. But rather than implementing options that are discussed in the Draft PEIS, DOE should direct itself to action that would remedy the current problem at hand. The construction of a pilot vitrification plant to demonstrate the safe stabilization of plutonium residues, for example, would not preclude DOE from implementing other strategies considered in the PEIS. The implementation of such a project would instead send the positive signal that DOE is resolved to address the disposition problem as well as addressing current pressing environmental and health issues.

In conclusion, the Department has a significant amount of work ahead before it can produce an adequate Draft PEIS on the storage and disposition of weapons-usable fissile materials. The document at hand is woefully inadequate and flawed. At this point the Department should provide another opportunity for public comment after the concerns previously mentioned in our comments have been adequately addressed in a revised Draft PEIS. Nothing less than a fully sufficient NEPA analysis

17/09.11.08
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19/09.02.08

20/08.03.00

01 04 00 Comment Number 18

The possibility of more than one alternative being selected for disposition is discussed in Section 2.5.2.1 of the Draft PEIS. The Final PEIS identifies the impacts associated with a hybrid alternative consisting of more than one technology. The Final PEIS also examines combined impacts for storage plus disposition for the Preferred Alternative.

09 02 08 Comment Number 19

The Y-12 Plant currently stores HEU in several facilities, all located within the Plant's PA. Category I and Category II quantities of HEU (as defined by DOE Order 5633.3B, *Control and Accountability of Nuclear Materials*) are stored in Material Access Areas (MAAs). Within each specific MAA, the HEU is stored within properly designed and built vaults or vault-type rooms. These existing storage facilities meet current security and ES&H regulations and requirements. Under the No Action Alternative for ORR, DOE is committed to maintaining these facilities to ensure safe operation for the balance of the facilities useful lives. For the other reasonable storage and disposition alternatives, compliance with all applicable ES&H requirements is an integral and important part of each storage or disposition facility design.

08 03 00 Comment Number 20

The Department of Energy acknowledges the commentor's support for a vitrification pilot plant. Decisions on the disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

**SNAKE RIVER ALLIANCE, BOISE, ID,
ROBERT MCENANEY
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should be expected.
Submitted by
Robert McEnaney

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**SOUTHWEST RESEARCH AND INFORMATION CENTER,
ALBUQUERQUE, NM, DON HANCOCK
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June 7, 1996

United States Department of Energy
Office of Fissile Materials Disposition
P.O. Box 23786
Washington, DC 20026-3786

Dear People,

These comments are in addition to oral comments made by Don Hancock in Amarillo, Texas on April 22 and to the letter signed by SRIC and numerous other organizations and sent to Secretary O'Leary on May 6.

SRIC strongly believes that the Draft Programmatic Environmental Impact Statement (PEIS) on the Storage and Disposition of Weapons-Usable Fissile Materials is fatally flawed and must be substantially revised and reissued for additional public comment before it can be used for decisions about storage or disposition of fissile materials.

Safe and verifiable storage and disposal of surplus plutonium and highly-enriched uranium is one of the most urgent and significant international security matters of our time. However, precipitous decisions about disposition based on inadequate technical, cost, and proliferation information will likely exacerbate existing deficiencies in handling of fissile materials, thereby making the difficulties of implementing any decisions even greater.

The National Environmental Policy Act (NEPA) dictates that DOE present a credible and accurate discussion of reasonable alternatives in its review of this issue. Further, the potential consequences of an inappropriate decision compel DOE to demonstrate better than its normal quality of NEPA performance - ensuring particularly that the nonproliferation and cumulative impacts of its decision are soundly addressed. The current Draft PEIS meets neither of these standards.

Regarding disposition, it is clear from DOE's research bias toward mixed oxide (MOX) fuel and reactor technologies that the draft PEIS and DOE's policy are being driven by the desires of the nuclear industry to gain politically and economically by receiving government subsidies such as free fuel for existing reactors and federal funding for new reactors. The NEPA process should not be hijacked by such pork barrel politics.

1/08.00.00

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08 00 00 Comment Number 1

Although DOE is committed to public input and openness, DOE does not contemplate additional public comment on this PEIS. Public comments have already been received in scoping and public meetings. The comment period for the PEIS was extended to 92 days; in addition, technical, cost, schedule, and nonproliferation analyses were released for public comment.

01 02 00 Comment Number 2

The alternatives analyzed in the PEIS were determined through a screening process that included public input on the selection criteria. This process was not politically or institutionally biased.

Given the difficulties in making and implementing disposition decisions for the next decade or more, the real public and international focus on fissile materials will be their storage, whether DOE considers such storage "interim" or "long-term." Thus, an adequate draft PEIS should provide a comprehensive look at all reasonable alternatives and their environmental impacts.	3/01.01.00	
I. However, the draft PEIS is seriously deficient in its consideration of alternatives: • it fails to consider all reasonable alternatives for the long-term storage of weapons-usable fissile materials, particularly plutonium pits. Currently, in the Pantex Site-Wide Environmental Impact Statement, the Department of Defense (DOD) facilities, specifically at Kirtland Air Force Base's Manzano Weapons Storage Area, is a reasonable alternative which must be analyzed in the EIS. The DOD is also a cooperating agency in that Pantex EIS. The draft PEIS rejects this alternative for long-term storage of pits although it is clearly as reasonable an alternative for long-term storage as for interim. DOD facilities should be included as alternative sites, and DOD should be a cooperating agency in a revised and re-issued draft PEIS.	4/01.04.00	
The draft PEIS (p. 2-6) briefly dismisses the Manzano site because of the need to provide long-term storage of plutonium in forms other than pits and the "ES&H concerns" associated with handling plutonium not in pit form "in proximity to the Manzano site." However, continuing storage of pits for longer than 5-10 years is not considered in the draft EIS. It is clearly both a reasonable alternative and is very likely to occur in any case. Thus, the draft PEIS must include as a reasonable storage alternative having pits stored in pit form and storing other plutonium in non-pit forms in a separate facility or at another site. Of particular interest is the ability of the Manzano Weapons Storage Area to store pits for longer than 5-10 years. Since the draft PEIS states that a new storage facility would have to be built for long-term storage at any of the DOE sites, the possibility that the existing Manzano site (and potentially other DOE sites) could be used for pit storage (even if not suitable for other forms of plutonium) must be fully considered.	5/02.00.08	
• It fails to consider alternatives for storage containers for plutonium. Only one container, which is not yet certified, is analyzed in this document despite the fact that this container is not appropriate for storage of plutonium in all of the variety of forms in which it currently resides throughout the complex. A range of adequate containers must be examined in order to ensure that plutonium stabilization and storage can be done safely.		

F-057

01 01 00 Comment Number 3

Comment noted.

01 04 00 Comment Number 4

Combined storage of pits and non-pit Pu at the Manzano WSA was originally eliminated as a reasonable alternative in the Draft PEIS. After considering separate storage of pits from non-pit Pu, the option to store these pits at the Manzano WSA no longer appears unreasonable. The Manzano WSA was evaluated in the Pantex EIS and Section 2.1.3 of the Final PEIS. The Final PEIS was revised to clarify the consideration of the Manzano WSA for combined storage, and a description of the WSA was included in Appendix P.

Other non-DOE sites (including DoD sites) were considered in the Screening Report, and were eliminated because of cost effectiveness, ES&H, and public/institutional acceptance concerns, with no overriding advantages compared to existing DOE sites already safeguarding nuclear materials. Under these circumstances, DoD was not included as a cooperating agency.

02 00 08 Comment Number 5

The PEIS assumes that all surplus Pu at Hanford, INEL, Pantex, SRS, RFETS, and LANL has been transformed to a stable form that meets the DOE *Standard Criteria for Safe Storage of Pu Metals and Oxides* (DOE-STD-3013-94) for materials greater than 50-percent Pu. Stabilization of the material and the impacts are not within the scope of this PEIS. The material would be stored in containers consistent with the transportation of the materials on or to the site. Containers analyzed for storage of pits include the FL container (currently certified) and the AT-400 (currently under review for certification). Material would not be moved and stored in the AT-400A container without proper certification. Other containers were analyzed for the transportation of other Pu materials (for example, the BUSS R-1 cask for As and the MO-1 for MOX fuel).

01 06 00	Comment Number 6	The discussion of inspectability by the IAEA is shown in Chapter 1, pages 1-5 and 1-6 of the PEIS.
01 01 00	Comment Number 7	As described in Chapter 1 of the PEIS, DOE has an ongoing program to stabilize non-pit materials containing Pu and miscellaneous uranium materials to meet the requirements of the <i>Plutonium Vulnerability Management Plan</i> . The NEPA coverage for stabilization of the weapons-usable fissile materials is beyond the scope of this PEIS, since the PEIS addresses only separated materials. The management of materials stabilization activities, including any NEPA analysis that might be required, is being conducted under the DOE's Environmental Management program in accordance with DNFSB Recommendation 94-1 Site Corrective Action plans.
01 00 00	Comment Number 8	This PEIS addresses the storage and disposition of separated materials including residues (of greater than 50-percent Pu by volume), scrap, and other materials that have been stabilized. The processes and facilities required to achieve stabilization are addressed in other NEPA documents. A discussion of RFETS residues and their treatment appears in Chapter 1 of the PEIS. Reference to the <i>Solid Residues Treatment, Repackaging, and Storage at the Rocky Flats Environmental Technology Site Environmental Assessment</i> , and FONSI is included in Section 1.1.1 of the PEIS.

10 00 00	Comment Number 9	Under the No Action Alternative, DOE sites with surplus Pu (Hanford, INEL, Pantex, and SRS) would continue to store Pu-bearing materials in storage vaults and other similar facilities. All Pu materials will be stabilized and repackaged, as necessary, to ensure safe storage. The cleanup, stabilization, and storage of readily retrievable Pu materials are being addressed in several NEPA documents (for example, the Plutonium Finishing Plant Stabilization

* It fails to consider alternatives that would promote full international inspection of all surplus plutonium and highly enriched uranium. Such an alternative must be considered reasonable since it is expressly included in the President's Nonproliferation policy (p. A-2). Analysis of the alternative should include the ease or difficulty of such international inspection at various sites. For example, how could international inspection be done in Zone 12 at Pantex, the area designated for many long-term storage activities which will also continue to be the weapons assembly/disassembly area, and which presumably would not be open to international inspection? Are DOE sites which do not have a Defense Programs mission easily opened to international inspection? How could DOD sites be subject to international inspection?

II. The draft PEIS is also severely deficient in its analysis of environmental impacts:

* It fails to consider fully activities associated with the processing and interim storage of plutonium and highly enriched uranium that will be required to transition this material from its current status at various sites around the complex to the preferred form(s) for long-term storage. The draft PEIS seems to presume that such processing and repackaging receives comprehensive NEPA coverage in some other document(s). That is not the case. Instead, the various existing NEPA documents considering interim stabilization and storage are incomplete. There has been no comprehensive analysis of the stabilization and storage issues, an analysis that should be included in the PEIS.

* It fails to consider comprehensively all of the existing surplus plutonium. Some of the existing surplus plutonium is not, in fact, included in the PEIS, although the draft PEIS says it is (p. 1-2). For example, some of the 11.9 metric tons of surplus plutonium at Rocky Flats has been inappropriately excluded from the draft PEIS. Some of these materials are being analyzed in the Draft Environmental Assessment for Solid Residue Treatment, Repackaging, and Storage, DOE-EA-1120, March 1996. That EA is not even listed in the draft PEIS as a related document (p. 1-8). The table on that page also is a vivid, though incomplete, description of the fragmented NEPA process that DOE is engaged in.

A related matter is that for the disposition alternatives, all material is assumed to be in a form suitable for shipping (p. 4 719). However, the environmental and worker impacts of processing these materials into such a form is not included in the draft PEIS, nor in any other NEPA document.

6/01.06.00

7/01.01.00

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9/10.00.00

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* In its analysis for various sites, the draft PEIS focuses only on the particular area of the site that would be used for storage or disposition, rather than comprehensively looking at the other activities at a site that could affect storage or disposition. For example, at Pantex, it fails to discuss how the on-going weapons activities in Zone 12 could conflict with plutonium storage.	10/11.00.08
* The analysis of environmental impacts at all sites is severely limited by the "pre-design" information regarding buildings and facilities (p. B-1 and C-1). The draft PEIS tries to excuse this flaw as regards disposition decisions by stating that no siting decisions will be made in this PEIS (p. 4-1). However, siting decisions will be made regarding storage, so the sites must be looked at comprehensively and the cumulative impacts of storage along with other existing or proposed missions of each site must be fully considered.	11/11.00.08
* The environmental impacts of particular activities, specifically related to plutonium conversion and MOX fuel facilities, are grossly underestimated. For example, the draft PEIS does not use previous experience of plutonium processing and conversion as the baseline environmental impacts. Operational problems and accidents, for example, at DOE facilities that have engaged in similar activities should be included, as DOE cannot just assume that "improved technologies" will eliminate the possibility of future problems.	12/09.00.08
* It fails to include in its analysis of disposition options for plutonium the significant impacts surrounding the disposal of high-plutonium content spent fuel resulting from a Mixed-Oxide (MOX) disposition. The impact assessment fails to address issues regarding repository disposal of spent MOX fuel raised by the National Academy of Sciences in its 1995 Reactor Options study of the plutonium disposition. For instance, DOE fails to consider the higher thermal power of MOX spent fuel and its implications for the cost and safety of a high-level waste repository. The failure to consider issues raised by the NAS study is all the more egregious because the DOE has repeatedly stated that it would be guided by the NAS studies on plutonium disposition. DOE should also carefully address the potentially greater consequences of an accident in a reactor loaded with MOX fuel. A more thorough analysis of MOX use would raise significant concerns about, for example, its link to future reprocessing and long-term U.S. policy regarding reliance on the plutonium fuel cycle.	13/09.11.08
* The site-specific analysis is often wrong. For example, page 4-727 states that at Pantex "no groundwater would be withdrawn for the project from the aquifer" for construction and operation of evolutionary LWR. That statement is, of course, totally wrong	14/09.09.08
	15/01.00.00
	16/09.04.04
F-057	

EIS at Hanford, the Pantex EIS for Pantex, the Interim Management of Nuclear Materials EIS at SRS, and the RFETS Interim Storage EIS) as well as DNFSB Recommendation 94-1 Site Corrective Action Plans. Therefore, the impacts from these actions are not included in the PEIS.

11 00 08 Comment Number 10

Discussions of ongoing and anticipated activities at various DOE sites and how these activities would affect the environmental resources at the sites are given under the title "Cumulative Impacts" in Section 4.7 of the PEIS.

Ongoing assembly and disassembly activities at Pantex occur in bays, cells, and special purpose facilities. Storage activities would occur in building 12-66, a new consolidation or a new collocation facility. Building 12-66 is currently being used for warehouse activities, and the use of it would not conflict with assembly and disassembly activities. Storage activities at Pantex are currently being done in Zone 4. Appendix Q has been added to the Final PEIS to describe storage of RFETS pits in Zone 4. Zone 4 has adequate capacity for pits currently at Pantex and RFETS.

11 00 08 Comment Number 11

For disposition without the conceptual design of a facility, there would not be a detailed estimate of the various effluent releases from the facility, and hence, no basis for a more detailed environmental impact analysis of the releases. For long-term storage, analysis of the existing and anticipated activities at each candidate site and the potential impacts of these activities on the various environmental resources at the site is given under the title *Cumulative Impacts* in Section 4.7 of the PEIS.

09 00 08 Comment Number 12

An evaluation of disposition alternatives was completed for representative sites. These representative sites have been identified for the analysis of the range of environmental consequences. These sites include Hanford, NTS, INEL, Pantex, ORR, and SRS. Additionally, some disposition facilities (specifically those involving the deep borehole complex, generic MOX fuel

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since all water for construction and operation of any such facility at Pantex would come from the Ogallala aquifer, just as all water currently used at Pantex comes from Ogallala wells. * The accident analysis for various scenarios is seriously understated. For example, the evaluation basis accident in a MOX fuel fabrication facility is 10-kilogram plutonium source at risk, whereas the system released (p. W-289). Given the risk, release of U.S. weapons, the uncertainties about design and handling, the lack of regulatory requirements, and the far larger quantities than 10 kilograms of plutonium that would be in the facility at any given time, a more severe accident scenario with such large source terms and larger releases must be included. SRIC also does not feel that an adequate basis has been established to include several of the "beyond design basis" accident scenarios for a MOX facility (p. W-289). The analysis should be revised to include larger source term amounts and more severe accidents which release larger volumes of plutonium. Similarly, the same 10-kilogram plutonium source is used for accident scenarios for a plutonium conversion facility (p. W-369). Once again, SRIC does not agree that there is credible analysis to justify exclusion of "beyond evaluation basis" accident scenarios nor that more serious accidents are not credible. * The positive environmental and nonproliferation effects of international inspection and other transparency measures are ignored in the draft PEIS. The document says that some of the materials included "may be subject" to bilateral or international inspection (p. 1-5). However, regular international inspection would dramatically increase the confidence of people worldwide regarding the status of surplus weapons-usable fissile materials and that the U.S. is not using such materials for weapons-related activities. * It contains no cost estimates and no detailed design information on buildings and facilities. Such information is necessary both to identify reasonable alternatives and their environmental impacts. But that information will not be available to the public until well after the public comment period on the draft PEIS ends. SRIC believes that such information is essential to the public discussion and must be made available with the revised draft PEIS. Indeed, in the Final EIS on Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel, the Department did analyze and compare costs of alternatives. Similarly, in the draft Stockpile Stewardship and Management PEIS, DOE/EIS-0236, February 1996, DOE used cost projections as a major determining factor in assessing alternatives.	16/09/04.04 cont.
* The positive environmental and nonproliferation effects of international inspection and other transparency measures are ignored in the draft PEIS. The document says that some of the materials included "may be subject" to bilateral or international inspection (p. 1-5). However, regular international inspection would dramatically increase the confidence of people worldwide regarding the status of surplus weapons-usable fissile materials and that the U.S. is not using such materials for weapons-related activities. * It contains no cost estimates and no detailed design information on buildings and facilities. Such information is necessary both to identify reasonable alternatives and their environmental impacts. But that information will not be available to the public until well after the public comment period on the draft PEIS ends. SRIC believes that such information is essential to the public discussion and must be made available with the revised draft PEIS. Indeed, in the Final EIS on Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel, the Department did analyze and compare costs of alternatives. Similarly, in the draft Stockpile Stewardship and Management PEIS, DOE/EIS-0236, February 1996, DOE used cost projections as a major determining factor in assessing alternatives.	17/09/09.08
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fabrication, and use of existing or partially completed LWRs) do not lend themselves to specific site analysis at this time. Therefore, generic site characteristics have been developed for environmental evaluations of these facilities. DOE will conduct site-specific environmental characteristics before as required, that will utilize site-specific environmental analyses for Pu a disposition site is selected. Site-specific environmental analyses for Pu disposition will be addressed in the next tiered NEPA documents.

The National Laboratories, which developed the data reports that were used to develop the environmental impacts related to Pu conversion and MOX fuel facilities, did use previous Pu processing experience. Laboratory experts used their knowledge of the physical, chemical, and radiological properties of Pu to determine potential release fractions during normal and accident situations, and worker and population exposures. This knowledge also included process parameters such as the quantity of the material at risk, process flow rates (for example, the quantity of Pu that could be stabilized or converted into MOX per year), and the number of workers required.

09 11 08 Comment Number 13

The NAS report on the disposition of Pu was used in the screening evaluation process to form the basis for options evaluated for both long-term storage and disposition. The NAS report established a Stored Weapons Standard and Spent Fuel Standard used in the PEIS.

Appendix H of the PEIS provides a comparative analysis of the various Pu waste forms for potential disposal in an NWPA-HLW repository. This analysis includes the thermal characteristics of MOX versus uranium oxide fuel.

09 09 08 Comment Number 14

The event description, probability, source terms, and the human health impacts from the potential accidents for the evolutionary reactors using UO₂ fuels are presented in the PEIS. The similar analysis for the existing, partially completed and evolutionary LWRs with MOX fuels are conducted and included in the PEIS.

* It neglects to provide any analysis of the proliferation impacts of the various alternatives considered for the long-term storage of plutonium and highly enriched uranium and the disposition options for plutonium. The proliferation impacts are crucial factors in any decisions to be made regarding these weapons-usable materials and, as such, they must be examined in the PEIS. Once again, DOE is ignoring its own NEPA precedents where proliferation has been a key element in NEPA documents. (Nonproliferation concerns were included in the Final PEIS for Tritium.) Here too, the DOE has failed to consider the issues raised in the 1994 and 1995 NAS studies on plutonium disposition. Further, the possibility of international verification (transparency) and conformity to international safeguards must weigh heavily in DOE's final decisions about storage and disposition. When the environmental impacts, proliferation risks, and the total costs of MOX are fully considered, we believe that the Department would reject that alternative. Since other means to safely handle excess plutonium exist, the proposed use of MOX as a means of plutonium disposition should be flatly rejected as unreasonable.	20/01.06.00							
111. Other comments 1. A positive comment is that the metric conversion chart (p. xxvii) and metric prefixes (p. xxviii) are helpful. They should be regularly included in other DOE documents. 2. The numerous references cited in the text but not included in the reference list are a significant problem. SRIC had to make several calls to the Office of Fissile Materials and talk with a contractor before being informed that the reference cited was in error. Likewise, numerous references are several years old and obsolete. The fact that more recent analyses are being done and may be included in the final PEIS (as SRIC was informed) is not helpful in analyzing the draft PEIS. Since apparently additional time is needed to complete more up-to-date documents, revising and re-issuing a draft PEIS would allow those more recent documents to be used in the preparation of the draft PEIS. 3. Another example of the sloppy work is in the table of contents of Volume 1, which omits more than 100 pages of the document! Section 2.5.2 on disposition alternatives and its 119 pages is not even listed in the table of contents. And section 2.6, the preferred alternative is listed as being on p. 2-159, when in reality it is page 2-258. 4. The draft PEIS should describe the size and subject matter contained in the classified appendix (pp. 4-771, 4-781) so that the interested reader could have a better idea of how essential it is to the overall understanding of the issues relevant to the draft PEIS. If the classified appendix is necessary to gain a	21/08.03.01							F-057

01 00 00 Comment Number 15

The nonproliferation aspects of each alternative evaluated in the PEIS were addressed in a separate nonproliferation analysis issued by DOE in late 1996. If the use of MOX fuel in reactors is selected as the disposition approach, the MOX fuel fabrication plant would be shut down at the completion of the disposition mission. Furthermore, the spent fuel from the use of MOX would not be reprocessed; therefore, residual Pu would not be separated.

09 04 04 Comment Number 16

The statement cited concerns the perched aquifer beneath Pantex. It is correct in noting that no groundwater will be withdrawn from this aquifer. The text in Section 4.3.5.4.4 of the Final PEIS was changed from "near surface aquifer" to the "perched aquifer."

09 09 08 Comment Number 17

The accident scenarios for Pu storage and disposition, including the accident frequency and the source term released to environment, were developed based on the best available information. Although not all potential accidents were addressed, those that were postulated have consequences and risks that are expected to envelop the consequences and risks of an operating facility. Some of the "beyond evaluation basis" accidents were analyzed in the PEIS. It is believed that no other credible accidents with expected frequency of occurrence larger than 1.0×10^{-7} per year are anticipated that will have consequences and risks larger than those described in this PEIS. The background information for the accident scenario development is documented in the respective data reports prepared for the Pu storage and disposition program by National Laboratories.

01 06 00 Comment Number 18

Analysis of the Nonproliferation Policy impacts of all the PEIS alternatives, including international inspection, is presented in a separate document to support DOE's ROD. This document was available for public review in October 1996.

25/10.03.00 cont.	full understanding of the environmental impacts of any alternative, that should also be stated in the draft PEIS. 5. Since the draft PEIS does not contain preferred alternatives, it should fully describe the criteria that would be used to select such alternatives so that the public could comment on the appropriateness and weighting that should be given.
26/08.03.00	6. While real cost and design information is not available, the draft PEIS is sometimes breathtaking in the precision, without necessary statement of the uncertainties of its analysis. It is certain that the numbers used are wrong, but the document no where states that obvious point. For example, the socioeconomic analysis for Pantex (pages 4-202 to 4-206) makes a number of unqualified, and totally incredible, statements. Even though the actual jobs required for construction and the actual operational jobs are unknown, the draft PEIS includes precise numbers (a range for both direct and indirect jobs would be more technically appropriate). The draft PEIS also contains specific amounts about how the regional economy, including unemployment, would be affected by the upgrade, consolidation, and collocation alternatives. The statements in the draft PEIS are not qualified in any way as to the differing economic characteristics that will certainly exist in the future, the changing job market, technological changes that will affect employment, the fact that large construction projects frequently attract workers whether jobs are in fact available, among many other factors are not stated.
27/09.08.08	7. Even though the draft PEIS is supposed to discuss activities that will happen, decide or more in the future, it frequently ignores that reality. Among other things, it assumes current environmental and economic conditions. It also assumes current permitting requirements, even when permits have a considerably shorter lifetime. For example, the draft PEIS assumes continued open burning and discharges to playas even though those actions are being phased out. The draft PEIS also assumes that the TARGC facility will be constructed and operated at the same site, burning and discharges to unlined ditches and playas. For example, DOE knows that it must look for alternate technologies to phase out open burning and discharges into unlined ditches and playas. However, no alternate scenarios are included in the draft PEIS.
28/09.00.08	IV. These concerns make clear that the Department has much work to do before it can produce even a minimally adequate Draft PEIS on the storage and disposition of weapons-usable fissile materials. Until a revised draft PEIS is issued for public comment, a final PEIS is issued, and a Record of Decision is released, the Department cannot make programmatic decisions regarding long-term storage and disposition of weapons-usable fissile materials.

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08 00 00 **Comment Number 19**
In the interest of openness and more informed decisionmaking, DOE released Technical Summary Reports to the public as soon as they became available. Cost data, along with technical and schedule data, were provided in Technical Summary Reports of both storage and disposition in the summer of 1996. Results of the nonproliferation analysis were made available in the fall of 1996. Each of these analyses along with the environmental analysis and public input will be integrated into DOE's decisionmaking process.

01 06 00 **Comment Number 20**
In addition to the environmental analysis of the storage and disposition alternatives identified in this PEIS, DOE conducted technical, schedule, cost and nonproliferation analyses to assure an adequate basis for a ROD. These analyses were published as separate documents and were made available to the public for review and comment beginning in July 1996 for the technical, cost, and schedule analyses and October 1996 for the nonproliferation analysis.

The United States has placed some of its weapons-usable materials under IAEA safeguards and is continuing efforts to make more available to IAEA. DOE is also assisting Russia with efforts to create new storage capacity and to establish new control and accountability capabilities for existing storage facilities. Through these efforts, there is hope to encourage greater international commitment to IAEA inspections.

08 03 01 **Comment Number 21**
The Department of Energy acknowledges the commentor's opposition to the Reactor Alternative using MOX fuel. Decisions on disposition of weapons-usable fissile materials will be made based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

16 00 00 **Comment Number 22**
Comment noted.

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However, SRIC urges DOE to continue activities which can prepare the Department to make its best possible decisions. We want to be explicit that we do not believe our concerns need to delay the construction of a pilot plant for the immobilization of plutonium wastes by vitrification. Construction of a pilot plant is not programmatic, and therefore does not require NEPA analysis in a programmatic document. Moving forward with a pilot vitrification plant will signal the Department's resolve to disposition plutonium rather than to stockpile it, as well as to address some existing environmental, health, and safety issues.

Moving forward will also provide additional information about the particulars of immobilization of plutonium in glass; information that would be useful in preparing an adequate draft PEIS. And, since the Department already realizes that some of its plutonium will not be a candidate for conversion to MOX fuel under any circumstances, construction of a pilot vitrification plant will enable the Department to address at least some of this material in a timely and effective way.

Sincerely,


Don Hancock

29/08.03.00

09 00 08 **Comment Number 23**

The most current data available was used for the analyses and development of sections in the Draft PEIS prior to its publication. The Final PEIS has been revised to reflect updated data and additional information received since the publication of the Draft. References to this updated information are reflected in the reference chapter of the Final PEIS.

16 00 00 **Comment Number 24**

Comment has been noted. Changes were made to the Table of Contents and are reflected in the Final PEIS.

10 03 00 **Comment Number 25**

The foreword acknowledges the Classified Appendix and includes a brief description of its content. The technical factors discussed in the appendix are classified.

08 03 00 **Comment Number 26**

Between the issuance of the Draft and Final PEIS, DOE has obtained supplemental information from a variety of sources in addition to the environmental analyses. One of these sources is the public. Further information was obtained from technical, cost, schedule, and nonproliferation analyses performed separate from the environmental analysis. The information provided by all of these sources was used to determine the Preferred Alternative and will be integrated into DOE's decisionmaking process. The ROD will describe the basis for the decision.

09 08 08 **Comment Number 27**

The socioeconomic analysis is based on the best available data. DOE National Laboratories have developed manpower estimates for the construction and operation of each of the Proposed Alternatives. Employment multipliers from RIMS II, developed by BEA, are used to estimate total

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employment impacts. The approach used in the Draft PEIS is a widely accepted methodology for estimating the potential impacts of public and private sector projects on regional economies. The job estimates are used to determine whether a project can be accommodated in a regional economy without stressing the available labor and housing markets. For Proposed Actions involving downsizing or termination of existing missions, the multipliers are used to estimate total job loss for the affected region.

09 00 08

Comment Number 28

Future activities in the PEIS are analyzed by projecting and modeling current environmental and economic conditions and data. This analysis does not project current permitting requirements nor postulate possible additional regulatory requirements which may arise that could have an affect on future programs at analyzed sites.

08 03 00

Comment Number 29

The Department of Energy recognizes the commentor's support for an immobilization pilot plant. However, the need for NEPA analysis of such a pilot plant will be determined dependent upon the disposition alternative selected.

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Date Received: 06/12/96
Comment ID: P0049
Name: Don Hancock
Address:

Transcription:

This is Don Hancock at Southwest Research and Information Center in Albuquerque, New Mexico, my number is (505)262-1862. I have several pages of comments that I wanted to fax in, but this line doesn't seem to work as a fax line even though it was advertised and is included in the cover sheet of the PEIS as being a fax line as well. So, my comment is that it should also be a fax line, and I have faxed my comments to the Office of Fissile Materials Disposition at the 202 number and expect that they'll be fully considered. Thank you very much.

1/08.02.00

08 02 00
Comment Number 1
Comment noted.

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SOUTHWESTERN PUBLIC SERVICE COMPANY, AMARILLO, TX,
WILLIAM T. CRENSHAW
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Comments of
SOUTHWESTERN PUBLIC SERVICE COMPANY
Amarillo, Texas

to
UNITED STATES DEPARTMENT OF ENERGY

Re: Draft
Programmatic Environmental Impact Statement
for Stockpile Stewardship and Management, February 1996

Environmental Impact Statement
for Continued Operation of the Pantex Plant
and Associated Storage of Nuclear Weapon Components, March 1996

and
Storage and Disposition
of Weapons-Usable Fissile Materials, February 1996

May 7, 1996

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SOUTHWESTERN PUBLIC SERVICE COMPANY, AMARILLO, TX,
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Southwestern Public Service Company is the investor-owned electric energy provider to the Pantex Plant, near Amarillo, Texas, and to approximately 367,500 other customers (about one million persons) in the Panhandle and South Plains of Texas, eastern and southeastern New Mexico, the Oklahoma Panhandle, and southwestern Kansas. SPS through the past several years has been an attentive and active participant in United States Department of Energy public information/participation activities related to DOE nuclear complex planning.

1. SPS actively supports the interests of Pantex and Pantex employees -- so long as those interests are coincident with protection and improvement of environmental conditions in the Pantex region of influence and with prudent and rational national defense policies and strategies.

2. At this juncture in the proposed and appropriate downsizing of the nuclear complex, we again strongly encourage the Department and Administration to predicate all actions related to the nuclear complex on the conservative assumption that at least rogue-state or terroristic nuclear aggression against the United States is probable.

U.S. vigilance and nuclear preparedness are key to coexistence with mad nations and persons.

In turn, the Pantex Plant is, uniquely, a key to economically efficient continuing nuclear preparedness.

SPS's further comments today on the three major draft environmental impact statements under review intentionally are brief. We forego repetition of comments filed with the Department in the past, and concentrate on issues of particular relevance to appropriate future missions for Pantex:

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08 03 01	Comment Number 1	The Department of Energy acknowledges the commentor's support of Pantex. Decisions related to future missions at Pantex will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.
09 00 08	Comment Number 2	Based on comments received, the Summary of the Draft PEIS was revised. The bar charts providing the comparison of impacts for both storage and disposition were deleted from the Summary. The related text was revised to clarify the comparison of impacts and to delete reference to "adverse" impacts.

1/08.03.01	3. Fundamental to DOE's further consideration of the roles Pantex should play relative to the changing missions of the nuclear complex is the unequivocal recognition that even cumulatively, there would be NO significant adverse environmental impacts from retention and potential expansion of the variety of missions possible for Pantex.
2/09.00.08	The summaries of the relevant draft EISs do not report this fundamental conclusion explicitly; rather, in some instances, the summaries misrepresent that conclusion, reporting, instead, effectively minuscule environmental potentialities that are characterized as "adverse" only because they do not equate to measurable "benefits." We suggest the rote language of EISs should be expanded to recognize effectively neutral outcomes (not merely "beneficial" or "adverse" consequences). However, the underlying draft statements themselves are conclusive in regards to the actual insignificance of "adverse" potential impacts of expanded missions at Pantex. Moreover, DOE and consultant representatives in public meetings in Amarillo publicly and explicitly acknowledged that fundamental conclusion (see, especially, transcript of April 23, 1996, morning discussions). Because the Department, through its representatives in Amarillo on April 23, committed to highlighting, in the subject Final Environmental Impact Statements, this fundamental and irrefutable conclusion about the actual insignificance of any adverse environmental impacts of increased missions at Pantex, Southwestern will not enumerate and rebut the litany of potential environmental concerns reflected in the EISs.
F-037	5. (However, we do request that the Department include in the record "dockets" for these EISs the comments by SPS relative to listed potential environmental concerns recited in the draft Tritium Production-related EIS of 1995.

SOUTHWESTERN PUBLIC SERVICE COMPANY, AMARILLO, TX,
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15 00 00 Comment Number 3
Comment noted. However, this issue is addressed in the Stockpile Stewardship
and Management PEIS.

In those comments, SPS rebutted the overly sensitive, generally not really site-specific but knee-jerk and ill-informed, and frequently inaccurate characterizations of environmental "concerns" about expanded missions at Pantex. Clearly, those earlier characterizations of possibly "adverse" impacts, especially those related to uses of ground water, now are rejected by DOE. Nonetheless, a replete record supportive of the Department's April 23, 1996, publicly articulated conclusion that NO significant adverse impacts would result, is appropriate.)

2/09.00.08
cont.

6. Southwestern endorses the Department's "preferred alternative" for continuing assembly, disassembly, and pit reuse functions at Pantex. This "preferred alternative" is environmentally sound, and economically appropriate. Transferring these functions to the Nevada Test Site would be highly questionable in both regards.

7. We strongly encourage the Department to retain high explosives functions at Pantex (rather than relocating those functions to Los Alamos and Lawrence Livermore labs). There would be negative environmental impacts, of course, associated with transfer of those functions to the labs -- impacts related to construction and expansion of the labs' facilities, for instance. Those impacts would not occur at Pantex, where facilities already are available and in use for these very purposes. Additionally, there would be economic waste associated with such transfers; simply put, it would be more expensive -- by DOE's estimate, \$50 million more expensive -- to move the functions than to retain them where they presently are performed.

3/15.00.00

Too, high explosives functions should be retained at Pantex because under the assembly/disassembly preferred alternative, Pantex would be required to continue to have high explosives capabilities sufficient to handle disposition and disposal of current inventories and those anticipated from near-term dismantling --

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SOUTHWESTERN PUBLIC SERVICE COMPANY, AMARILLO, TX,
WILLIAM T. CRENSHAW
PAGE 5 OF 9

again, retaining the high explosives functions at the present site would eliminate the necessity of duplicating them elsewhere.

Finally, high explosives functions should be retained at Pantex because, should future need arise for new weapons production, it will be critical to have the high explosives facilities at the weapons production/assembly site -- which site, demonstrably, should be the Pantex site.

8. The environmental and related socio-economic impacts of new storage and disposition functions at Pantex (as outlined in the Fissile Material Programmatic EIS) certainly suggests Pantex in fact is the prime candidate for those functions -- especially the storage functions (both those related to reserve weapons grade plutonium and "excess" materials, for which Pantex already has facilities and demonstrated expertise).

1/08.03.01
cont.

Clearly, the facilities and expertise for storage are existent at Pantex: the site provides storage for over 8,500 pits, and has FONSI (Finding of No Significant Impact) authority to house 12,000 pits. With slight modifications, the site likely could "FONSI-out," following an environmental assessment for 20,000 pits. Equally clearly, Pantex is well prepared to store some 21.3 metric tons of the 38.2 tons of the nation's "excess" plutonium -- the 21.3 tons are in place at Pantex now. Apparently, only slight expansion would be necessary to securely store the remainder.

Fundamental to this conclusion, too, are the obvious synergies of collocation of assembly/disassembly activities with necessarily attendant, on-site storage.

In fact, as a result of the (altogether appropriate) decision to continue assembly and *disassembly* at Pantex, all plutonium functions, including storage and

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SOUTHWESTERN PUBLIC SERVICE COMPANY, AMARILLO, TX,
WILLIAM T. CRENSHAW
PAGE 6 OF 9

disposition, logically flow to Pantex. Incurring extraneous and unnecessary, and high, costs for redundant activities at separate sites would be imprudent.

9. Pantex is the nation's premier nuclear complex production facility; it is imperative that the "production core competencies" presently at the site not be lost or diluted by transfer of management (or production) functions to the labs.

The Department indicates that "stewardship core competencies" must be preserved, perhaps at the laboratories -- and the Department seems to indicate that may mean sacrificing "core production competencies" existent at Pantex. It would make better sense to maintain the stewardship competencies by visits or residency at Pantex, than to lose the production competencies that have evolved there.

Transferring assembly and disassembly functions to any site inexperienced in weapons production and, likely, incapable of significant weapons production, could prove disastrous should the need for an augmented nuclear arsenal arise (or *when* such need arises). Please, do not eliminate or significantly diminish our nation's most effective weapons production facility's competencies.

Relative to disposition alternatives, Southwestern Public Service Company notes that electric power and energy that could be used in immobilization and vitrification, or in processing for oxide fuel, would be priced very competitively at Pantex. (We refer the Department again to our comments, relative to electric supply and costs, in the Tritium Production EIS inquiry.) We are confident that Southwestern's position as a low-cost producer will encourage the Department to choose Pantex as the most cost-effective site for disposition activities.

1/08.03.01
cont.

10. DOE always should seek the most cost-efficient alternatives for the nuclear complex's operations. Generally, the most cost-efficient alternatives, rather

F-037

related to capital investments, transportation, training, security, energy utilities, etc., will be those available to the nation at Pantex.	1/08.03.01 cont.
We request -- we are tempted to demand -- that fair and open cost comparisons among the alternative sites for each function be used in analyzing sites, and that such accountings be shared with the public that have demonstrated interest in the nuclear complex.	4/07.02.00
11. Southwestern must specifically reject the conclusion in the Storage and Disposition draft EIS, under Phaseout, page S-21 (emphasis supplied), as it would apply to the Pantex region of influence: "All of the regional economic areas surrounding the DOE sites would experience a loss in employment with phaseout. However, compared to total employment in these areas, the loss of jobs would have no or negligible impacts at all the DOE sites."	5/09.08.04
In fact, the impact of Pantex employment in the region of influence is highly significant to the region. Measured in terms of total payroll, Pantex is by far the area's largest employer. The reasonable job multiplier developed by Dr. Ray Perryman at Southern Methodist University, a multiplier of 3.87, applied to the some 3,500 employees at Pantex, suggests the site is responsible for a total of over 13,500 jobs. Employment related to Pantex represents over 12% of the jobs in the Amarillo metropolitan area.	
Incidentally, the three subject EISs inconsistently analyze the indirect jobs created in the region by Pantex employment: The site EIS assumes 1.65 indirect jobs for each job at Pantex; the stewardship and management EIS assumes 1.16; the storage and disposition EIS, 3.51 (by far, the most consistent with Dr. Perryman's, which is the same, regional-experience-based multiplier employed by the Amarillo Economic Development Commission).	

F-037

F-037

07 02 00 Comment Number 4

The Department of Energy issued a Technical Summary Report in July 1996 that included cost comparisons of the disposition technologies evaluated in the PEIS. However, the report only provided generic costs for each technology rather than site-specific costs. The differences between sites for a particular technology are relatively small except where existing facilities are available that could be used to offset overall cost. Available facilities were taken into consideration in developing the Preferred Alternative in the Final PEIS and will be considered with other factors in the ROD.

09 08 04 Comment Number 5

Phasing out the storage facilities is the only Proposed Alternative that would eliminate jobs at Pantex. DOE estimates that only about five direct jobs would be lost due to the phaseout of the storage mission. Although any employment loss would be undesirable, the loss of five jobs would have no impact on the local or regional economy.

The number of indirect jobs generated or lost due to the Proposed Alternatives was estimated using the RIMS II model developed by BEA. The employment multipliers used in RIMS II are available for all of the candidate sites and lend consistency to the socioeconomic analyses.

The documents cited evaluate the impacts of different activities which would account for some of the difference in size of multipliers used. For example, this PEIS assesses the impacts of storage alternatives at Pantex, differs from the types of activities assessed in the Stockpile Stewardship and Management PEIS (for example, weapons assembly/disassembly). These activities require different supply and service inputs and rely on different support industries. Therefore, the employment multipliers are likely to be different. The Pantex EIS uses a slightly different methodology and analyzes activities not limited to the Fissile Materials Disposition mission. This difference would account for disparities in the size of multipliers used in the two documents.

Certainly, we consider a potential 10% to 12% reduction in metro-area employment a major loss, and by no means a "negligible" concern. We strongly urge the Department to correct the socio-economic impact portions of all three EIS documents to accurately reflect the impact of Pantex employment in its region of influence.	5/09.08.04 cont.
12. Unlike other nuclear complex sites, for instance the notorious Rocky Flats, Hanford, and Savannah River sites, and yes, Los Alamos, Pantex has not had radioactive materials contamination problems. The nuclear complex-related operations at Pantex, in fact, apparently are the best-managed, relative to protection of the environment, in the nuclear complex. Partially to reward the superior, environmentally benign, history of the site, and certainly to capitalize on superior environmental performance, the Department should retain and expand the technically competent operations at Pantex.	1/08.03.01 cont.
Public support for retention and expansion of the Pantex operations has been nurtured by the facility's performance over many decades. Just as the public here has respected that performance, so should the Department.	
Moreover, the Department must surely recognize in the resounding public support Pantex enjoys still further advantages to retention and expansion of the missions at Pantex.	
In summary, the criteria for evaluating the alternatives and arriving at the most suitable Record of Decision -- the criteria of environmental impact, cost, and technical feasibility -- support retention and expansion of nuclear complex missions at the nation's premier production site, Pantex Plant.	1/08.03.01 cont.

**SOUTHWESTERN PUBLIC SERVICE COMPANY, AMARILLO, TX,
WILLIAM T. CRENSHAW
PAGE 9 OF 9**

Southwestern appreciates the opportunity to participate in this important decision making process, and welcomes questions and dialogue, directed to:

William T. Crenshaw
Environmental Issues Analyst
Southwestern Public Service Company
(806) 378-2120

F-037

SPEISER, JOSHUA, SEATTLE, WA
PAGE 1 OF 2

Storage and Disposition of Weapons-Usable Fissile Materials Draft Programmatic Environmental Impact Statement (PEIS) Public Comment Form	
Name (optional): <u>Joshua S. Speiser</u>	
Address (optional): <u>2411 9th Avenue NE</u> <u>Seattle, WA 98105</u>	
Please write down your comments and drop this form in the marked boxes before you leave tonight. These forms will be submitted to the Department of Energy as part of the formal comment on this PEIS. If you are unable to complete this form tonight, written comments can be mailed to: Department of Energy Office of Fissile Materials Disposition P.O. Box 33786 Washington, D.C. 20026-3786 or, you can call this toll-free number to leave comments by phone: 1-800-820-5156. Comments must be submitted by May 7, 1996. The Department of Energy has identified three types of technologies as options for disposing of weapons-usable fissile materials. The Department has also considered a "no action alternative" which would result in long-term storage of these materials. Please write down your comments on the following three types of options for disposal and the storage option. 1. Materials Immobilization/Vitrification - Immobilize fissile materials by mixing them with glass, glass bonded zirconia, or ceramics. 2. Deep borehole disposal - Materials would be disposed in boreholes at least 2.5 miles deep, in geologically stable formations. Materials would be transported directly into the deep borehole, or materials could be immobilized first, stored in trucks, and then deposited into the deep borehole. 3. Reactor Options - Surplus plutonium/highly enriched uranium would be made into MOX fuel for use in nuclear reactors, destroying by fission a major portion of the weapons grade materials.	
1/08.03.01	The BEST OPTION This should be THE OPTIMAL chosen for disposing of weapons-usable Fissile Materials. It is the most powerful of public and worker health and environment, about 1000 times LEAST nuclear waste and have the lowest subcritical impacts to the nation. 2. Deep borehole disposal - Materials would be disposed in boreholes at least 2.5 miles deep, in geologically stable formations. Materials would be transported directly into the deep borehole, or materials could be immobilized first, stored in trucks, and then deposited into the deep borehole. 3. Reactor Options - Surplus plutonium/highly enriched uranium would be made into MOX fuel for use in nuclear reactors, destroying by fission a major portion of the weapons grade materials.
2/08.03.01	This option should be the most preferred and is strongly with too many unknowns. Furthermore, the going for 24,000 + years. If this option is chosen I will remain silent for 24,000 + years. The 1/2 life of plutonium.
3/08.03.01	option by choosing this option will be made by mostly will reduce a large volume of NEW HIGH LEVEL NUCLEAR WASTE. Plus the public worker health and the environment in the greater Puget Sound region. Radiated in the past is outshined by the incredible production of weapons-usable fissile materials.
4/08.03.01	4. Storage Options - USDOE would continue existing storage practices for weapons-usable fissile materials at current locations and/or consolidate that storage at one or more of the designated sites. This option does nothing to solve the current siting problem. It is also the only one to place the plutonium in the DOE must ACT AND NOT "continue existing storage practices."

M-093

08 03 01 Comment Number 1

The Department of Energy acknowledges the commentor's support for the Vitrification Alternative. Decisions on disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

08 03 01 Comment Number 2

The Department of Energy recognizes the commentor's concern with the Borehole Alternatives. Decisions on the disposition alternatives will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

08 03 01 Comment Number 3

The Department of Energy acknowledges the commentor's opposition to the Reactor Alternative using MOX fuel. Decisions on disposition of weapons-usable fissile materials will be made based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

08 03 01 Comment Number 4

The Department of Energy acknowledges the commentor's opposition to continuing or long-term storage. Decisions on storage of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

SPEISER, JOSHUA, SEATTLE, WA
PAGE 2 OF 2

Please use this space to write down any additional comments on the Storage and Disposition of Weapons-Usable Fissile Materials Draft Programmatic Environmental Impact Statement.

The Mox-fuel option only exacerbates the current plutonium problem, our nation needs to clean up more HIGH LEVEL WASTE, in TALLERLEY COUNTRY, and taking care, the high cost of the process produces little savings / dollar invested. It is a staggered program and will only increase within the burden the DOE now has...

No on the Mox fuel Option!!!

Yes on Vitrification.

3/08 03.01
cont.

M-093

SPIKE ENTERPRISES AND TABOR GROUP, SAN ANTONIO, TX,
TADEO ZYWICKI
PAGE 1 OF 3

SPIKE ENTERPRISES	and	TABOR GROUP	The Center for Legal and Social Justice 7501 Alamo 36th Street San Antonio, Texas 78278	Telephone 210-431-5747 • Facsimile: 210-431-5700	April 29, 1996
TADEO "SPIKE" ZYWICKI	United States Department of Energy	Office of Fissile Materials Disposition	P.O. Box 23786	Washington, DC 20260-3786	Sire and Madamuses
Your responsibility to select the safest measures of our	Nuclear says ten to preserve our nation from dire consequences.	A most fundamental need as Water is in danger. The various aquifers	are in danger even to the present generation. How clearly must you	plan ahead for future dangers and needs.	I trust that the work of discovery is going to creative
thinkers who must of necessity break the mold of past bungling and	secure us the advanced clear thinking of community Service.	Thank you, Sincerely	<i>Tadeo Zywicki</i> Tadeo Zywicki	1 encl.	1/08.03.00
2/09.04.04	M-130				

08 03 00 Comment Number 1

Comment noted.

09 04 04 Comment Number 2

Based on comments received, the Summary was revised. The bar charts providing the comparison of impacts for both storage and disposition were deleted from the Summary. The related text was revised to clarify the comparison of impacts and to delete reference to "adverse" impacts.

SPIKE ENTERPRISES AND TABOR GROUP, SAN ANTONIO, TX,
TADEO ZYWICKI
PAGE 2 OF 3

STAND FOR CHILDREN

This is a defining time for our children and for our nation. The choices we make now, as parents, as community leaders, and as citizens, will shape our children's future and our nation's future. On June 1, every American who cares about children must stand up and be counted.

The June 1 Stand for Children will be a day of family and community renewal, celebration, and commitment to children. It will be a day to dedicate ourselves to positive action, as families, citizens, and communities, and as a national community, to do more to make sure that no child is left behind.

Get Involved and Make History.
We need your energy and commitment.
Here's how you can join in:

1. **Come to Washington, DC, on June 1 with your family and friends and take a Stand for Children.**
2. **Spread the word.** The more people who stand together for children on June 1 in Washington, DC, the bigger the impact. So tell 10 friends. Make copies of this flier and distribute them in places where people go every day — grocery stores, barber shops, coffee shops, malls. Put an announcement in your congregation's bulletin, your school or organization newsletter, and the local paper.
3. **Volunteer.** Children's Action Teams are forming all over America to help people come together in Washington on June 1. Call or e-mail us to find out what's going on in your area.

4. **Bring a busload to Stand for Children.** Organize a bus or a van or a car convey to bring your family, friends, neighbors, co-workers, and congregation members to Washington, DC, on June 1. Call 1-800-333-1100 or 202-234-0095, or e-mail us at standinfo@wallback.com to receive our Bus Captain's Guide.

5. **Organize a Children's Action Team.** Your team can be as small as four people or as large as four thousand. But your job is still the same: to inspire people to take a Stand for Children on June 1 and strengthen your community's commitment to improving our children's quality of life. Our national staff will work with your Children's Action Team to make sure your efforts are successful. Call us at 1-800-333-1100 or 202-234-0095, or e-mail us at standinfo@wallback.com to get started.

STAND FOR CHILDREN can help you find out more about the event. Call 1-800-333-1100 or 202-234-0095, or e-mail us at standinfo@wallback.com to find out what's going on in your area or to receive a Stand for Children pamphlet. Here are some of the programs we can provide to help you make a Stand for Children:

- Bus Captain's Guide
- News
- Local Event Ideas
- Pamphlets
- Political Kits
- Plans
- Local Fundraising Tips
- Pledge Cards
- Children's Four Square

Celebrity Public Service Announcements
Teachers and other professionals will be available at a reasonable cost to help you raise funds for Stand for Children.

**STAND
FOR
CHILDREN**

1833 Constitution Ave. NW
Washington, DC 20009
1-800-333-1100

M-130

**America isn't doing
enough for our children.**

On June 1, we can
change that.

**STAND
FOR
CHILDREN**

June 1, 1996
Lincoln Memorial
Washington, DC

Make June 1 a national
day of commitment
to American children.

Our children's future
and our nation's future
are in our hands.

Every day in America:
15 children are killed by firearms
2,660 babies are born into poverty
2,833 children drop out of school
8,493 children are reported abused or neglected

America ranks:
12th among 15 nations in mathematics achievement of 13-year-olds
18th among industrialized countries in the gap between rich and poor children
18th in infant mortality
16th in being standard of our poorest children

**STAND
FOR
CHILDREN**

is endorsed by more than
400 national, state, and local
organizations, and the list continues to
grow. For a complete list of endorsing
organizations, call 1-800-233-1200.



We are proud of every child
and every parent
in celebrating our children,
and the future of the
nation.

The children of the future
are the children of today.
We must ensure that they
are the children of a better
future.

To the child, we say: "Stand."
The child's name is "Stand."

Gathering will begin on the Mall at
10 AM with the
formal program starting at 1 PM.



**STAND OF AMARILLO, AMARILLO, TX,
BEVERLY E. C. GATTIS
PAGE 1 OF 2**

Statement of Beverly E.C. Gattis
President, STAND of Amarillo
April 22, 1996

Representatives of the Department of Energy are here for the next two days to educate the public about its plans for the future. There are voluminous documents which Parhandle citizens can read, if they so choose, and some of us have at least started that task. I will confess to a growing sense of anger at how deficient those documents are.

The Parhandle stands to be greatly affected by the choices the DOE will make about plutonium storage, processing and disposition, yet citizens are given documents which only talk in generalities about operations which can change Pantex into a plutonium processing site like Rocky Flats.

Pantex could become the site which blends plutonium and uranium together to make nuclear reactor fuel. It could even be the site for a new, experimental nuclear reactor. About none of this can we get sufficient information.

Technical analyses will be available later. Cost analyses will be available later. We do not have access to the information necessary to render an informed opinion, and the Department tells us that is how it will be. For instance, DOE defends the absence of cost information by stating that NEPA does not require a federal agency to supply cost analyses in a draft document. To that, I say "So what." Such information is necessary to the discussion and so must be made available.

The same applies to technical information. It is not possible that the Department has so little information that it can not give a clearer description of what the operations for dismantling pits and processing plutonium will involve. And no citizen should be satisfied with being put in the position of guessing.

All in all, the Department is wasting the time and good efforts of Parhandle citizens who care about their region. It is putting on a show of gathering public comment, but it is withholding information which the public needs and deserves. DOE is managing the public, not empowering it.

The decisions which these documents address are too important for us to allow the Department to go forward in this manner. Whether it is the case that the Department has the missing information yet is not revealing it, or whether the information is not complete, in either instance these draft documents are fundamentally deficient. The public deserves better. The law expects better. And the future must be based on something better.

There is difficult, important work which must be done with plutonium and highly enriched uranium if we are to control the theft of nuclear weapons-useable materials

1/08.00.00

2/13.00.00

TX-061

08 00 00 Comment Number 1

In the interest of openness and more informed decisionmaking, DOE released Technical Summary Reports to the public as soon as they became available. Cost data, along with technical and schedule data, were provided in Technical Summary Reports of both storage and disposition in the summer of 1996. Results of the nonproliferation analysis were made available in the fall of 1996. Each of these analyses along with the environmental analysis and public input will be integrated into DOE's decisionmaking process.

13 00 00 Comment Number 2

Comment noted. DOE will implement the Proposed Action in compliance with all applicable environmental, safety, and health regulations, and will pursue external regulatory oversight to the extent practicable.

STAND OF AMARILLO, AMARILLO, TX,
BEVERLY E. C. GATTIS
PAGE 2 OF 2

and stop the spread of nuclear weapons. Unfortunately, it is the kind of work which has left trouble and contamination every place it has ever been done.

It is clear that the Department could name Pantex to do some of this processing and disposal work. It is STAND's position that the Pantex is too valuable to be turned into a plutonium processor, fuel fabricator, nuclear reactor and nuclear waste handling site. But even more, it is STAND's position that no matter where this work is done, this time it must be well planned and executed. STAND will not accept anything less than forthright, complete information and good science for the sake not only of our region, but for the rest of the nation.

2/13.00.00
cont.

3/08.03.01

08 03 01

Comment Number 3

The Department of Energy acknowledges the commentor's opposition to new missions at Pantex. Decisions on storage and disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

TX-061

STATE OF COLORADO



Ray Brown, Governor
Paul Slaughter, Acting Executive Director
Dedicated to protecting and improving the health and environment of the people of Colorado
4300 Cherry Creek Dr. S.
Laboratory Building
Denver, Colorado 80220-3716
Phone (303) 692-2800
(303) 691-4700

May 7, 1996

U.S. Department of Energy
Office of Fissile Materials Disposition
P.O. Box 23786
Washington, D.C. 20024
FAX: 1-800-820-5156

Comments on the Draft PU PEIS

The PEIS approaches risk from a standpoint that DOE has adequate administrative and institutional controls to prevent accidental or catastrophic releases of plutonium or other dangerous materials. Thus, the risk assessments prepared by DOE always conclude that there is no incremental risk from any given action.

In the approximately fifty years of operation at Rocky Flats, two fires breached the containment systems and released plutonium contamination into the environment. At the time of each incident, it was believed that administrative and institutional controls would prevent such an incident.

At Rocky Flats, plutonium and other materials are currently under the most dangerous conditions in the lifetime of the facility. In order to correct these conditions, actions will be taken that are non-routine and difficult to plan adequately. Thus, the overall risk at Rocky Flats will increase due to the uncertainty associated with these actions, and with the worsening conditions of the current storage.

The area surrounding Rocky Flats is rapidly shifting from rural use to residential. The impacts of a release from Rocky Flats are significantly magnified over past conditions or the conditions at other DOE sites. Therefore, any alternative that delays the removal of plutonium from Rocky Flats has a significant increase in potential risk to the public.

Furthermore, projected delays in the removal of Rocky Flats plutonium have already impacted Site budgets. Uncertainties in the schedule for decision making and implementation of the PEIS have deflected funds for environmental cleanup and other risk reduction activities into projects related to additional plutonium storage at Rocky Flats. Some PEIS alternatives result in quicker decisions and/or plutonium removal from Rocky Flats, which allows storage funds to be allocated to other risk reduction activities.

1/09.09.07

2/07.00.00

M-174

09 09 07 Comment Number 1

For Pu storage at Rocky Flats, the PEIS analyzes No Action and phaseout of Pu storage at RFETS as part of each of the "action" storage alternatives. Under the No Action Alternative, Pu would continue to be stored at the site in existing facilities. The health risk from potential accidents from these storage facilities is assumed to be the same as the existing conditions, which is analyzed in this PEIS and, in addition, documented in a Safety Analysis Report. For phaseout, the health risk for potential accidents from these storage facilities should be better than the existing conditions.

The Department of Energy is currently pursuing stabilizing and repackaging of weapons-usable fissile materials (including those at RFETS) and placing them in safe, secure storage in accordance with the corrective actions identified in the *Plutonium Vulnerability Management Plan*. The RFETS mission is to transition from a production-dominated site to an environmental restoration, cleanup, and waste management-dominated site. DOE is committed to implementing all actions at RFETS in a safe and environmentally sound manner without delays which could create an increase in potential risk to the public and workers.

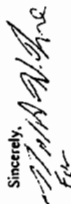
07 00 00 Comment Number 2

Comment noted. Decisions for projects related to additional Pu storage at RFETS will be integrated and coordinated with the ROD from this PEIS.

STATE OF COLORADO, DEPARTMENT OF PUBLIC HEALTH AND
ENVIRONMENT, DENVER, CO, STEVE TARLTON
PAGE 2 OF 2

CDPHE Comments
FUI PEIS
Page 2

Thank you for the opportunity to comment on the PEIS for Storage and Disposition of Weapons-Usable Fissile Materials. You may direct comments or questions to: Steve Tarlton, Manager, Rocky Flats Program, Colorado Department of Public Health and Environment, 303-692-3015.

Sincerely,

Steve Tarlton
Manager
Rocky Flats Program

cc: file

M-174

STATE OF FLORIDA, DEPARTMENT OF COMMUNITY AFFAIRS,
TALLAHASSEE, FL, RALPH CANTRAL
PAGE 1 OF 1

08 01 00 Comment Number 1

At the request of several organizations and individuals, the public comment period was extended to a total of 92 days.



STATE OF FLORIDA
DEPARTMENT OF COMMUNITY AFFAIRS

EMERGENCY MANAGEMENT • HOUSING AND COMMUNITY DEVELOPMENT • RESOURCE PLANNING AND MANAGEMENT

LANTON CHILES
Governor

JANIS F. MURLEY
Secretary

May 22, 1996

Mr. Bert Stevenson
U.S. Department of Energy
Office of Fissile Materials Disposition
1000 Independence Avenue SW
Washington, DC 20585-

RE: Nuclear Waste Disposal Siting - Storage and Disposition
of Weapons - Usable Fissile Materials - Draft
Programmatic Environmental Impact Statement - Statewide
SAI: FL9604090228C

Dear Mr. Stevenson:

The Florida State Clearinghouse has received your notification of the above-described project, and has forwarded it to the appropriate state agencies for review. In order to receive comments from all agencies, an additional fifteen days is requested for completion of the review. Therefore, the clearance letter due date for this project will be extended from May 24, 1996, to June 8, 1996. If all comments are received prior to the extended date, every effort will be made to forward the clearance letter to you at an earlier date.

Thank you for your understanding. If you have any questions regarding this matter, please contact Ms. Keri Akers, Clearinghouse Coordinator, at (904) 922-5438.

Sincerely,

Ralph Cantral

Ralph Cantral, Executive Director
Florida Coastal Management Program

RC/cc

2740 CENTERVIEW DRIVE • TALLAHASSEE, FLORIDA 32399-2188
FLORIDA STATE CLEARINGHOUSE
1700 GULF BLVD., SUITE 212
TALLAHASSEE, FLORIDA 32304-3277
SAI: FL9604090228C
GULF STREAM RECOVERY OFFICE
155 East University
Gulf Stream, Florida 33150-4041

1/08.01.00

M-260

STATE OF GEORGIA, DEPARTMENT OF NATURAL RESOURCES,
ATLANTA, GA, HAROLD F. REHEIS
PAGE 1 OF 1

Georgia Department of Natural Resources
205 Butler St. SE, East Floyd Tower, Atlanta, Georgia 30334
Loraine C. Barnett, Commissioner
Harold F. Reheis, Director
Environmental Protection Division

May 6, 1996

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

Dear Mr. Rudy:

In accordance with DOE public review and comment procedures we have completed an assessment of the Draft Programmatic Environmental Impact Statement on Disposition of Weapons-Usable Fissile Materials (DOE/EIS-0229-D). We appreciate the opportunity to provide input into this important decision.

The draft document contains a number of alternatives for the disposition, storage, and management of surplus plutonium. We note with a great deal of interest that DOE has not chosen a preferred alternative nor a facility for the implementation of a long term solution to the plutonium problem. This means that the Savannah River Site may be a future candidate for deep bore hole disposal or long term storage. Because of the complex geologic and hydrologic conditions at the Savannah River Site and the potential for contamination of groundwater that supplies all of Southeast Georgia, deep bore hole disposal and/or long term storage of plutonium at this facility is unacceptable. There may also be similar environmentally limiting conditions at other DOE facilities in the United States.

Our technical staff has reviewed the alternatives in the Draft Statement and concurs with the National Academy of Science (NAS) recommendation regarding the use of the spent fuel standard. In particular, it appears that a disposal system based on once-through irradiation of mixed oxide fuel in an existing light-water reactor, which is designed to accommodate this type of fuel, best meets the NAS standard. While we recognize that public concern will arise with the selection of any alternative, the use of plutonium in a reactor as fuel represents the best potential for protecting public health and safety in the long term.

In conclusion, we appreciate the opportunity to provide comments on this important national issue. We support the selection of an alternative that meets national security objectives in a safe and environmentally sound manner.

Sincerely,


Harold F. Reheis
Director

08 03 01 Comment Number 1

The Department of Energy acknowledges the commentor's opposition to new missions at SRS. Decisions on the storage and disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

08 03 01 Comment Number 2

The Department of Energy acknowledges the commentor's support for Pu disposition in reactors. Decisions on disposition will be made based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

1/08.03.01

2/08.03.01

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GOVERNOR PHILIP E. BATT
PAGE 1 OF 5



OFFICE OF THE GOVERNOR

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PHILIP E. BATT
GOVERNOR

(208) 334-2100

Testimony regarding the
Draft
Fissile Materials Disposition
Programmatic Environmental Impact Statement

Monday, April 15, 1996
Idaho Falls, Idaho

As the Governor of the great state of Idaho, I appreciate the Department of Energy's efforts to come to grips with the by-products of the Cold War. To those of you who have traveled great distances to attend today's meeting, I extend to you my warm greetings.

This nation entered the nuclear age fifty years ago with big dreams, high hopes and in the case of nuclear weapons, horrible fears about what might some day be unleashed. At the same time we entered in the nuclear era, we were ill prepared for what to do with the final waste streams that come about through nuclear activity.

The DOE is addressing these issues now through multiple environmental impact statements. Not all of them affect Idaho, but because the decisions DOE will make on the Draft Fissile Materials Disposition Programmatic Environmental Impact Statement will impact our state, it is important that DOE listen to what Idahoans have to say. Many fear what your decisions will do to the environment. Others fear what it will do to their pocketbook. Whatever decisions are made, it is important that DOE listen.

Although the EIS process DOE has undertaken is difficult and fraught with a certain degree of inevitable controversy, this process is an opportunity to peacefully decide what to do with what are essentially surplus war materials. Rather than using them in war, we now have the opportunity to calmly and rationally decide what to do with these surplus Cold War materials.

ID-002

STATE OF IDAHO, OFFICE OF THE GOVERNOR, BOISE, ID,
GOVERNOR PHILIP E. BATT
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08 03 00 Comment Number 1

The *National Environmental Policy Act* requires that DOE consider a range of reasonable alternatives for the storage and disposition of weapons-usable fissile materials. The INEL and five other sites are being evaluated in the PEIS as potential storage sites and as representative sites for disposition alternatives.

Final decisions on materials storage and disposition will be based upon programmatic cost and policy considerations, as well as the environmental analysis. Consistent with efforts to foster the cooperative spirit that DOE wants to see continue to grow out of the agreement with the State of Idaho, DOE will not make final siting decisions regarding the storage or disposition of offsite weapons-usable fissile materials at INEL without first discussing the matter with the State of Idaho.

1/08.03.00

The products under consideration in the Draft Fissile Materials Disposition Programmatic Environmental Impact Statement include plutonium and highly enriched uranium. As a nation, we must do something with these materials to make them safer and protect ourselves from the potential for misuse.

Under the draft PEIS, DOE officials are currently considering several options regarding what to do with these by-products. The draft PEIS identifies three long-term storage alternatives for plutonium and highly enriched uranium: upgrade facilities at multiple sites; consolidate the nation's plutonium at a single site; and co-locate plutonium and highly enriched uranium. The six candidate storage sites are: the Idaho National Engineering Laboratory, Hanford Site, Nevada Test Site, Oak Ridge Reservation, Pantex Plant and the Savannah River Site.

Let me make it perfectly clear to the DOE, media and citizens of Idaho: bringing nuclear waste material to Idaho for long term storage is not acceptable by either the letter or the spirit of the historic agreement reached last year.

Under the terms and principles of our agreement, transuranic waste material is specifically prohibited from entering Idaho until a treatment facility for that material is constructed and operating. Once the transuranic material is brought to Idaho, it has six months to be in Idaho before treatment and it must leave within six months after treatment. Transuranic waste is that waste contaminated with plutonium and other radioactive elements.

The state of Idaho considers any plutonium material brought to Idaho to be transuranic waste and therefore covered under the agreement.

Plutonium is a transuranic material because it contains more than 100 nanocuries of alpha-emitting transuranic isotopes with half-lives greater than 20 years per gram of waste.¹ Surplus plutonium is a waste because it is DOE's stated purpose and intent to treat this material so that it can be made proliferation resistant pending its ultimate disposition in a geologic repository. This EIS proposes to treat the plutonium by vitrification or MOX fuel fabrication. If DOE proposes to construct and operate either of these treatment facilities in Idaho, then Idaho will hold DOE to its obligation under the agreement - treatment within six months of receipt and shipment out of Idaho within six months of treatment.

Furthermore, if DOE decides to bring either plutonium or highly enriched uranium to Idaho for long term storage rather than treatment, Idaho will regard this as a direct violation of the spirit of our agreement. Both federal parties and Idaho agreed to act in good faith to effectuate and fully support this agreement. There was no doubt that the

¹ United States v. Philip E. Batt, Civil No. 91-0054-S-EJL, Oct. 17, 1995, definition section cites "transuranic waste as "defined as set forth in Spent Nuclear Fuel EIS, Volume 2, Appendix E.

1/08.03.00
cont.

ID-002

08 03 01

Comment Number 2

The Department of Energy acknowledges the commentor's support for additional missions at INEL. Decisions on storage and disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

purpose of the agreement was to set the ground rules for how DOE would bring radioactive materials into Idaho and when these materials would leave.

Our agreement does allow DOE to request a modification of the agreement if a National Environmental Policy Act (NEPA) analysis results in the selection of an action that conflicts with the terms of the agreement. If Idaho doesn't agree with DOE, the court can decide whether DOE's proposal is reasonable. In this case, shipping large quantities of plutonium and highly enriched uranium for storage in Idaho makes little sense and is clearly unreasonable given DOE's other options.

Idaho has just 4.5% of the nation's plutonium and 10.1% of the nation's declassified highly enriched uranium. In contrast, Tennessee has 66.4% of the declassified highly enriched uranium and Texas has 66.4% of the nation's plutonium.² It would seem to make sense that if DOE wants to simply consolidate its holdings of these materials, there are places other than Idaho that are better suited for this purpose.

Idaho is no longer a nuclear dump site. Again, if DOE merely wants to bring plutonium and highly enriched uranium to Idaho for "long term storage" in violation of the agreement, that is unacceptable.

Idaho must be and will be ever vigilant. Under my administration, I assure every Idahoan that we will continue to hold INEL to the very highest standards. As part of that effort, the state of Idaho's Division of Environmental Quality recently issued 61 notices of violation at INEL.³ Protecting Idaho's environment is an absolute must.

Having said that, let me add this. My administration still seeks new jobs and new missions for INEL. Just recently I came out in strong support of medical radioisotope production at Idaho's National Engineering Laboratory. I will continue, with others, including Idaho's Congressional Delegation, to seek new projects that provide quality jobs for eastern Idaho. I mention this because I believe that INEL scientists and engineers are some of the very best in the nation. I am confident that they can safely handle any material sent to them.

Radioactive material carries with it a lot of emotion. I believe the state's position addresses the fears of many. We want INEL to be clean. We want your operations to be safe. We want to see nuclear waste go to safe geologic repositories for permanent disposal. We also want good jobs at INEL, but simply bringing nuclear material to Idaho for indefinite "long term storage" does not achieve that objective and does not meet the spirit or letter of the agreement that was reached last year.

² Department of Energy National Governors' Association headnote, "Department of Energy Nuclear Materials and Waste Status and Pending Decisions, March 15, 1996." Relevant graphs attached.

³ For more information, contact Dave Piszarski, Bureau Chief, Enforcement Bureau, Idaho Division of Environmental Quality, 208-373-0562.

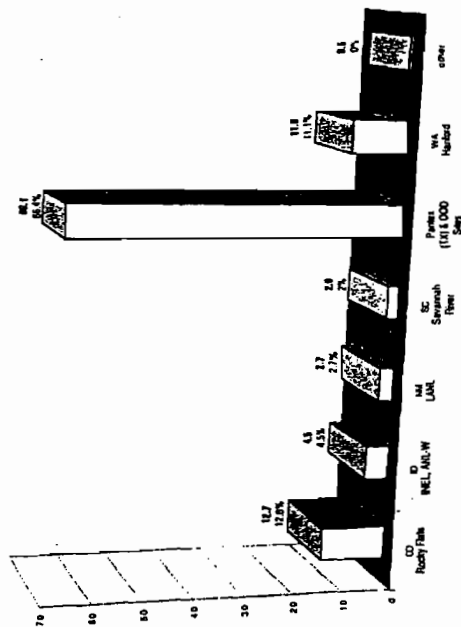
1/08.03.00
cont.

2/08.03.01

ID-002

Inventory Summary - Plutonium

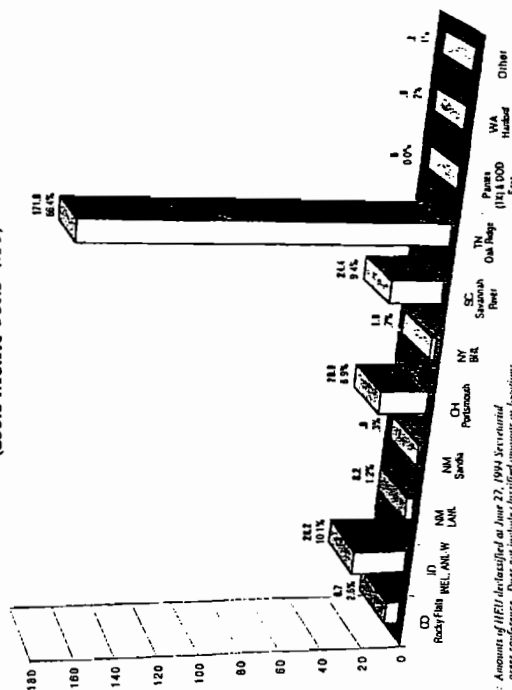
(99.5 Metric Tons- MT)



Note: The Pontex (TX) and DOD Sites category includes Plaquemine and runs with at Pontex. Specific amounts and locations are classified that the actual inventory of Pn is 99.5 MT

Partial Inventory - Highly Enriched Uranium

(258.8 Metric Tons- MT)



Source: Amounts of HEI declassified on June 27, 1994 Secretariat press conference. Does not include classified amounts on locations.

Note: The amounts and locations of HEI on Punters 193 and 2101. Since our declassified At the February 6, 1996 Press Conference, it was announced that there is 16,711 of HEI. No all of the 16,711 is so severely at Punters.

Note: The countries and locations of HEU at Pantex (TX) and MOX Services are provided in Table 2. *Source:* DOE (2002) and DOE (2003) Survey of HEU in the United States.

*At the February 6, 1996 Press Conference, in
Moscow all of the 16.7MT is currently at Pouter.*

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STATE OF IDAHO, OVERSIGHT PROGRAM, BOISE, ID,
ROBERT N. FERGUSON
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State of Idaho
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PHILIP E. BATT
Governor
ROBERT N. FERGUSON
Commissioner/Administrator

May 7, 1996

Mr. J. David Nulton
Department of Energy
Office of Fissile Materials Disposition
PO Box 23786
Washington, D.C. 20026-3786

RE: State of Idaho Comments on the Draft Storage and Disposition
of Weapons-Usable Fissile Materials Programmatic
Environmental Impact Statement, DOE/EIS-0229-D

Dear Mr. Nulton:

Thank you for the opportunity to comment on the above referenced document. Our comments are both general and specific. These comments supplement Governor Batt's testimony, which was read into the record at the public meeting in Idaho Falls on April 15, 1996. A copy of this testimony is attached.

GENERAL COMMENTS

The EIS evaluates the INEL as a candidate site for the long-term storage of weapons-usable fissile materials. In general, the INEL is not a suitable location for the long-term storage of these materials.

With regard to the storage of weapons-usable fissile materials, the INEL, unlike the other alternative sites, has neither the material handling experience nor a compatible mission. This is evident by the fact that the INEL does not accept fissile material currently stored at the INEL and the fact that other sites, such as Pantex, have historically managed the nation's nuclear stockpile material.

In addition, because most of this material is currently stored at other sites, consolidation at the INEL would require extensive shipping campaigns. Not only would there be numerous shipments to the INEL, but weapons-usable fissile material would have to be shipped back to weapons fabrication sites when needed by the complex. So many shipments of proliferation-sensitive materials would greatly increase the risks of sabotage along transportation routes. Additionally, the large number of shipments required would increase actual and potential environmental impacts from both normal operations and increased accident risks. This in turn would defeat the purpose of the EIS.

Investigate • Evaluate • Report

08 03 01 Comment Number 1

The Department of Energy acknowledges the commentator's opposition to new missions at INEL. Decisions on the storage and disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

02 00 03 Comment Number 2

The Department of Energy is considering several sites for the long-term storage of Pu and HEU. The decision on a site or sites will be based upon the results of environmental analyses, information from technical and economic studies, national policy considerations, and public input.

10 00 00 Comment Number 3

The human health risks of material transportations associated with the proposed Pu storage and disposition alternatives are evaluated and presented in Section 4.4 of the PEIS. The more detailed description of the methodology and supporting data for the analysis is presented in the Appendix G. Transportation of radioactive materials between sites includes health risks for both normal operations and accident conditions to the public and workers.

1/08.03.01

2/02.00.03

3/10.00.00

M-182

With regard to the disposition of excess plutonium, the State endorses waste management approaches designed to put the excess plutonium into a form that is proliferation-resistant and that can eventually be disposed of in a geologic repository. As such, the State supports the alternatives for fabrication of mixed-oxide fuel and vitrification with high-level waste.	4/08.03.01	
As stated in Governor Batt's testimony on this EIS, Idaho considers any plutonium transported to Idaho for long-term storage or disposition to be a transuranic waste. Therefore, any plutonium brought into the State would be subject to the terms of the October 17, 1995 settlement agreement between Idaho and the DOE. Accordingly, transuranic waste brought into the State must be treated within six months and taken out of the State within six months of treatment.	5/08.03.00	
Even though the EIS did not evaluate specific sites for the deep borehole alternative, it is worth noting that the INEL would not be a suitable location. The INEL is situated over the Snake River Plain Aquifer, a sole source aquifer that supplies more than half the water used in the State. In addition, the Snake River Plain is volcanically active, with lava flows occurring as recently as 2000 years ago. The borehole alternatives would involve drilling through the aquifer and emplacing plutonium waste in the geologic strata beneath it. Because of the potential for contaminating the aquifer and because the underlying strata is not "...ancient, geologically stable rock..." as specified on page S-13, the State does not consider the INEL to be a reasonable site for such an alternative.	6/08.03.01	
A final general comment regarding the Draft EIS is the need for more emphasis on pollution prevention and waste minimization. Because these measures reduce the environmental impacts of proposed actions and are required by law, the EIS should recognize and describe what will be done in this regard. It is suggested that the Final EIS contain a section describing pollution prevention and waste minimization techniques that will be adopted for each alternative.	7/04.03.00	
	8/09.00.08	
SPECIFIC COMMENTS		
P. 2-20. PARA. 2 This paragraph states that ANL-W "is the only INEL facility that currently stores weapons-usable Pu" and lists 4.5 t of Pu at the ZPPR and FNP facilities at ANL-W. "Plutonium: The First 50 Years", DOE, Feb. 1996, lists (p. 20) 4.0 t of Pu at ANL-W and 0.5 t at INEL (including [p. 76] 0.4 t of excess weapons grade Pu at the INEL). This apparent discrepancy should be clarified; is weapons-grade Pu stored at the INEL other than at ANL-W? If so, is all of the excess Pu at ANL-W, or is some of it elsewhere at the INEL?	9/02.01.03	
		M-182

08 03 01 Comment Number 4

The Department of Energy acknowledges the commentator's support for the Reactor Alternatives using MOX fuel and Vitrification Alternatives. Decisions on disposition of weapons-usable fissile materials will be based on environmental analyses, technical and economic studies, national policy considerations, and public input.

08 03 00 Comment Number 5

The Department of Energy acknowledges Governor Batt's position on the settlement agreement and his interpretation of its meaning. Any decision on storage or disposition of weapons-usable fissile materials in Idaho will include consideration of the Settlement Agreement along with the environmental analyses in the PEIS, technical and economic studies, national policy considerations, and public input.

08 03 01 Comment Number 6

The Department of Energy recognizes the commentator's concern with the Borehole Alternatives. Decisions on the disposition alternatives will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

04 03 00 Comment Number 7

Comment noted.

09 00 08 Comment Number 8

Waste minimization is the reduction, to the extent feasible, of radioactive and hazardous waste that is generated before treatment, storage, or disposal of the waste. Pollution prevention fully utilizes source reduction techniques in order to reduce risk to public health, safety, welfare, and the environment, and environmentally sound recycling to achieve these same goals. Each DOE site is required to have a *Waste Minimization and Pollution Prevention Awareness Plan*. To report progress towards their goals in the plan, each site prepares an

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P. 3-116 to 3-118 A discussion of groundwater contamination at TAN and vadose zone contamination at the RMC should be added.	10/09.04.03
P. 3-140, para. 4: app. J This paragraph regarding spent nuclear fuel (and subsequent paragraphs on high level waste, transuranic waste, and mixed waste) and appendix J should be revised based on the 2/6/96 amendment to the Record of Decision for the Programmatic Spent Nuclear Fuel Management & INEL Environmental Restoration & Waste Management EIS reflecting the settlement agreement with the State of Idaho and the 10/17/95 federal court order.	11/09.11.03
P. 4-133 (tab. 4.2.3.2-11), P. F-10 (tab. F.1.2.4-11), P. F-21 (tab. F.1.3-21), P. F-23 (tab. F.1.3-31) Emission rates for SO ₂ at INEL show increases (from the no action alternative) of 79 percent for consolidation and 99 percent for collocation, presumably due to potential increased coal combustion, as indicated in tab. 4.2.3.2-1 on p. 4-129. However, modeled 3-hour average ambient SO ₂ concentrations show increases of only 18 and 22 percent, respectively (increases for longer averaging times are similar). How is this possible if all emissions were modeled as coming from a single point source, as described in the text accompanying these tables?	12/09.03.03
P. 4-777 to 4-784 (see also app. G) Only total potential fatalities from transportation activities are presented for each alternative. A breakdown between radiological and non-radiological, and between incident-free and accident scenarios would be useful in reviewing the analysis, in putting radiological impacts in perspective, and in assessing the effect on total predicted fatalities (and the uncertainty thereof) of various input parameters.	13/10.02.00
P. G-2, para. 6 Please provide references for the rates for nonradiological impacts.	14/10.00.00
Appendix M, General comment The final EIS should provide an explanation of the subtitle "Evaluation of Composite Set of Accidents." It is not clear what is actually meant by this category.	15/09.09.08
P. M-38, para. 2, line 1: P. M-39 to M-43 "Five" should be changed to "nine" to be consistent with the accompanying tables and figure M.2.6-1. Also, NRF is indicated	16/09.09.03
M-182	

Annual Report on Waste Generation and Waste Minimization Progress. When planning for the construction of facilities by 2010, it will be necessary to consider currently available technology while providing modular, flexible designs that can incorporate process improvements as they become available. In accordance with Executive Orders 12856 and 12873 and DOE policy, the facilities that would support the long-term storage or disposition of weapons-usable fissile materials would be designed for waste minimization with an overall operating philosophy of pollution prevention. This waste minimization program would contribute to decreases in waste treatment, storage, and disposal costs and lower health risks to workers and the public. Technical approaches are being sought to optimize the number of production operations required, increase the use of nonhazardous chemicals and environmentally benign waste-producing chemicals, increase the use of recyclable chemicals and materials, and implement the new design or redesign of existing processes and products. Some criteria useful in determining successful technology include improved processing yield, reduced quantities of scrap, reduced waste and processing of by-products, reduced use of hazardous chemicals, positive return on investment, and continued product quality. This information is contained in Section E.1.3 of the PEIS.

02 01 03 Comment Number 9

The Secretary's briefing states 4.0 t (4.4 tons) of Pu is at ANL-W and 0.5 t (0.55 tons) is at INEL. The PEIS was corrected to indicate that 4.0 t (4.4 tons) of Pu is at ANL-W in the Zero Power Physics Reactor and Fuel Manufacturing Facility (FMF) facilities and 0.5 t (0.55 tons) is at INEL at the ICPP facilities. There are 0.4 t (0.44 tons) of surplus Pu at the ICPP facilities as indicated on Figure 1.1.1-1. The remaining Pu is not considered surplus.

09 04 03 Comment Number 10

A discussion concerning the sources of contamination at these areas and remedial actions for the contaminated groundwater was added to Section 3.4.4 of the Final PEIS.

STATE OF IDAHO, OVERSIGHT PROGRAM, BOISE, ID,
ROBERT N. FERGUSON
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as a release point in fig. M.2.6-1 on p. M-41, but no NRP information is included in the tables; why?	16/09.09.03 cont.
P. M-38. para. 3	17/09.09.03
Why were 1986 meteorological measurements used? More recent GRID III data should have been available.	
P. M-51. para. 2. line 1: P. M-52 to M-54	18/09.09.04
"Four" should be changed to "six" to be consistent with the accompanying tables and figure M.2.7-1.	
P. M-174. tab. M.3.4-43	19/09.10.08
The exponent or power of 10 is missing from the total hazard index for a worker at 100 meters; it should be "-1."	
P. M-207. tab. M.3.4-76	
The exponent or power of 10 is missing from the total hazard index for a worker at 100 meters; it should be "-5."	
P. M-227 to M-228	20/09.09.08
No indication is given on the type of meteorology being used in the MACCS computer code. Does the meteorology meet 95% accident meteorology, and if so, what are the conditions?	
P. M-228. para. 4	21/09.09.08
The uninvolved worker location is quite a distance (1 km) from the scene of the accidents. Uninvolved workers can be as close as 200 to 300 meters depending on the location of a building in relation to other facility structures. 1000 meters is a distance that could be related to collocation of facilities. Distances in closer proximity for uninvolved worker locations should be used.	
P. M-229 to M-276	22/09.09.08
Source terms released to the environment with up to four or five significant figures for imprecisely defined hypothetical accident scenarios (for example, "146.39 g Pu", last line in tab M.5.2.1.1-1; there are several other similar examples) imply a level of precision that would seem to be difficult to justify. These source terms are probably order of magnitude estimates at best.	
P. M-321. tab. M.5.3.5.1-5	23/09.09.08
Accident descriptions need to be provided for some of the postulated accidents listed in this table.	
	M-182

09 11 03 Comment Number 11

The appropriate sections within the PEIS have been revised to reflect the amended ROD that was published on March 8, 1996 (61 FR 9441).

09 03 03 Comment Number 12

Criteria pollutant emissions at INEL, including sulfur dioxide, were modeled from actual stack locations using operating permit data on stack height, stack diameter, exit velocity, and exit temperatures as presented in Section F.1.2.4. The facility emissions for the Consolidation and Collocation Alternatives were modeled from a centrally located single point source.

The pollutant concentrations presented in Table 4.2.3.3-1 were determined based upon the maximum annual average emission case. The emission rates presented in Table F.1.2.4-1 were changed to reflect the maximum annual average emission rates which correspond to the modeled concentrations. The emission rate for sulfur dioxide for the actual annual emission rate is 202,000 kilograms (kg)/yr (445,000 pounds (lb)/yr). The maximum annual average emission rate for sulfur dioxide is 1,700,000 kg/yr (3,880,000 lb/yr).

10 02 00 Comment Number 13

The human health risks from the transportation of radioactive materials between sites includes both radiological and nonradiological impacts to the public and workers. The categories of calculated risks include nonradiological accident impacts to the public and workers, nonradiological normal operation impacts to the public (air pollution), radiological accidents to the public, and radiological normal operation impacts to the public and workers. The transportation sections of the PEIS have been clarified to explain that many impacts are neither radiological nor cargo-related. The risk to the public for radiological accidents is an order of magnitude less than either nonradiological accidents or radiological exposures during normal operations.

STATE OF IDAHO, OVERSIGHT PROGRAM, BOISE, ID,
ROBERT N. FERGUSON
PAGE 5 OF 10

Should you have any questions regarding the State's comments,
please contact Alan Merritt of this office at (208) 528-2600.

Sincerely



Robert N. Ferguson
Administrator

enclosure

cc: Ann Dold, Manager
Alan Merritt, Environmental Scientist
Jerry Downs, Environmental Scientist
Richard Durante, Sr. Health Physicist
Doug Wells, Radiation Physicist
Kathleen Trever, Deputy Attorney General
Jeff Schrade, Special Assistant to the Governor
Senator Larry Craig
Senator Dirk Kempthorne
Representative Mike Crapo
Representative Helen Chenoweth
Delbert Farmer, Chairman, Ft. Hall Business Council
Roger Twitchell, DOE-ID NEPA Compliance Officer
File- 2.0 NEPA-EIS miscellaneous

M-182

10 00 00 Comment Number 14

Cashwell, J.W., K.S. Neuhauser, P.C. Reardon, and G.W. McNair, *Transportation Impacts of the Commercial Radioactive Waste Management Program*, SAND85-2715, U.S. Department of Energy, Sandia National Laboratories, NM, April 1986, pg. 167 (SNL 1986a:167).

09 09 08 Comment Number 15

The "evaluation of composite set of accidents" was included in the Draft PEIS with the intent of providing a more complete understanding of the accident analyses; however, public comments raised issues concerning confusion caused by this information, therefore the "evaluation of composite set of accidents" was deleted in the Final PEIS.

09 09 03 Comment Number 16

The text and tables in the Final PEIS have been modified to reflect the consistent case.

09 09 03 Comment Number 17

At the time the meteorological data was collected at the site, 1986 meteorological measurement data was the best available data to use in radiological assessment models. No significant change would be expected even if more current data were used.

09 09 04 Comment Number 18

The text and tables in the Final PEIS have been modified to reflect the consistent case.

09 10 08 Comment Number 19

The numbers are correct in the Final PEIS.



OFFICE OF THE GOVERNOR

1000 300-2100

BOISE 83720-0034

PHILIP E. BATT
GOVERNOR

Testimony regarding the
Draft
Fissile Materials Disposition
Programmatic Environmental Impact Statement

Monday, April 15, 1996
Idaho Falls, Idaho

As the Governor of the great state of Idaho, I appreciate the Department of Energy's efforts to come to grips with the by-products of the Cold War. To those of you who have traveled great distances to attend today's meeting, I extend to you my warm greetings.

This nation entered the nuclear age fifty years ago with big dreams, high hopes and in the case of nuclear weapons, horrible fears about what might some day be unleashed. At the same time we entered in the nuclear era, we were ill prepared for what to do with the fatal waste streams that come about through nuclear activity.

The DOE is addressing these issues now through multiple environmental impact statements. Not all of them affect Idaho, but because the decisions DOE will make on the Draft Fissile Materials Disposition Programmatic Environmental Impact Statement will impact our state, it is important that DOE listen to what Idahoans have to say. Many fear what your decisions will do to the environment. Others fear what it will do to their pocketbook. Whatever decisions are made, it is important that DOE listen.

Although the EIS process DOE has undertaken is difficult and fraught with a certain degree of inevitable controversy, this process is an opportunity to peacefully decide what to do with what are essentially surplus war materials. Rather than using them in war, we now have the opportunity to calmly and rationally decide what to do with these surplus Cold War materials.

M-182

09 09 08 Comment Number 20

The MACCS code used 50-percent meteorology data for accident risk assessment. The reason to choose the 50-percent meteorology data was that no 95-percent data was available for some sites. To be consistent for all sites, the average (about 50 percent) meteorology data was used for all sites.

09 09 08 Comment Number 21

The 1,000-meter (m) (3,281-foot (ft)) distance of a noninvolved worker from the nearest release point of radioactive material is a representative distance which has been used in calculations at all sites. It provides a reasonable reference distance for calculations at both large and small sites. Estimating exposures from a release point at closer distances may not be very accurate because of building effects on dispersion (that is, wake-stream effects).

Also, more detail on how the MACCS code was applied is added to the Final PEIS, Appendix M, and Environmental Impact Methodology sections of Chapter 4. In addition, a topical report for the accident assessments was prepared and added to the current Health Risk Data topical report.

09 09 08 Comment Number 22

In order to provide information to the public and decisionmakers, the human health risk and latent fatal cancers are presented in the PEIS even though they are very small numbers. To aid the public understanding of the risk numbers, an explanation of how to interpret these risk numbers is also included in Section M.5. Due to the inherent uncertainties associated with risk assessment, the parameters related to human health risk assessment should be kept to two significant digits. Risk numbers that are more than two significant digits were modified in Chapter 4 of the Final PEIS. Presenting more significant digits does not affect the decisionmaking process, but artificially grouping ranges of numbers may disguise significant discriminators.

The products under consideration in the Draft Fissile Materials Disposition Programmatic Environmental Impact Statement include plutonium and highly enriched uranium. As a nation, we must do something with these materials to make them safer and protect ourselves from the potential for misuse.

Under the draft PEIS, DOE officials are currently considering several options regarding what to do with these by-products. The draft PEIS identifies three long-term storage alternatives for plutonium and highly enriched uranium: upgrade facilities at multiple sites; consolidate the nation's plutonium at a single site; and co-locate plutonium and highly enriched uranium. The six candidate storage sites are: the Idaho National Engineering Laboratory, Hanford Site, Nevada Test Site, Oak Ridge Reservation, Pantex Plant and the Savannah River Site.

Let me make it perfectly clear to the DOE, media and citizens of Idaho: bringing nuclear waste material to Idaho for long term storage is not acceptable by either the letter or the spirit of the historic agreement reached last year.

Under the terms and principles of our agreement, transuranic waste material is specifically prohibited from entering Idaho until a treatment facility for that material is constructed and operating. Once the transuranic material is brought to Idaho, it has six months to be in Idaho before treatment and it must leave within six months after treatment. Transuranic waste is that waste contaminated with plutonium and other radioactive elements.

The state of Idaho considers any plutonium material brought to Idaho to be transuranic waste and therefore covered under the agreement.

Plutonium is a transuranic material because it contains more than 100 nanocuries of alpha-emitting transuranic isotopes with half-lives greater than 20 years per gram of waste.¹ Surplus plutonium is a waste because it is DOE's stated purpose and intent to treat this material so that it can be made proliferation resistant pending its ultimate disposition in a geologic repository. This EIS proposes to treat the plutonium by vitrification or MOX fuel fabrication. If DOE proposes to construct and operate either of these treatment facilities in Idaho, then Idaho will hold DOE to its obligation under the agreement -- treatment within six months of receipt and shipment out of Idaho within six months of treatment.

Furthermore, if DOE decides to bring either plutonium or highly enriched uranium to Idaho for long term storage rather than treatment, Idaho will regard this as a direct violation of the spirit of our agreement. Both federal parties and Idaho agreed to act in good faith to effectuate and fully support this agreement. There was no doubt that the

¹ United States v. Philip E. Bart, Civil No. 91-0054-S-EP, Oct. 17, 1995; definition section uses "transuranic waste as "defined as set forth in Special Nuclear Fuel EIS, Volume 2, Appendix E.

09 09 08 Comment Number 23

Section M.5.1.3.3 has been added in the Final PEIS to describe the methodology and techniques used in the analysis of facility accidents. The accident scenarios were developed to cover the full spectrum of potential accidents. The quantity of material at risk, radionuclide releases, probability of accidents, and input data have been estimated to calculate accident consequences.

For the disposition alternatives the accident descriptions are brief due to the conceptual nature of the design at this time. However, more detailed accident analyses will be included in site-specific tiered NEPA documentation for the disposition alternatives.

STATE OF IDAHO, OVERSIGHT PROGRAM, BOISE, ID,
ROBERT N. FERGUSON
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purpose of the agreement was to set the ground rules for how DOE would bring radioactive materials into Idaho and when these materials would leave.

Our agreement does allow DOE to request a modification of the agreement if a National Environmental Policy Act (NEPA) analysis results in the selection of an action that conflicts with the terms of the agreement. If Idaho doesn't agree with DOE, the court can decide whether DOE's proposal is reasonable. In this case, shipping large quantities of plutonium and highly enriched uranium for storage in Idaho makes little sense and is clearly unreasonable given DOE's other options.

Idaho has just 4.5% of the nation's plutonium and 10.1% of the nation's declassified highly enriched uranium. In contrast, Tennessee has 66.4% of the declassified highly enriched uranium and Texas has 66.4% of the nation's plutonium.² It would seem to make sense that if DOE wants to simply consolidate its holdings of these materials, there are places other than Idaho that are better suited for this purpose.

Idaho is no longer a nuclear dump site. Again, if DOE merely wants to bring plutonium and highly enriched uranium to Idaho for "long term storage" in violation of the agreement, that is unacceptable.

Idaho must be and will be ever vigilant. Under my administration, I assure every Idahoan that we will continue to hold INEL to the very highest standards. As part of that effort, the state of Idaho's Division of Environmental Quality recently issued 61 notices of violation at INEL.³ Protecting Idaho's environment is an absolute must.

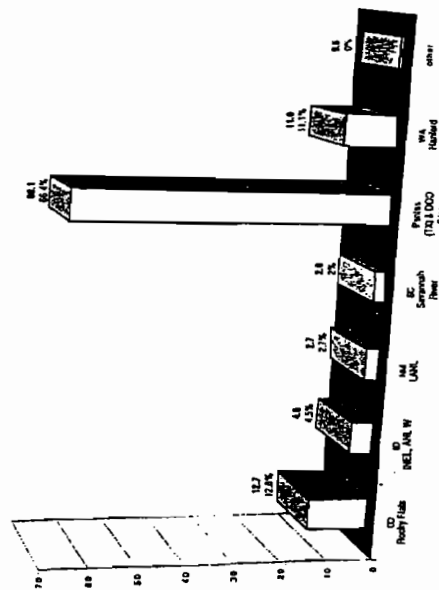
Having said that, let me add this. My administration still seeks new jobs and new missions for INEL. Just recently I came out in strong support of medical radioisotope production at Idaho's National Engineering Laboratory. I will continue, with others, including Idaho's Congressional Delegation, to seek new projects that provide quality jobs for eastern Idaho. I mention this because I believe that INEL scientists and engineers are some of the very best in the nation. I am confident that they can safely handle any material sent to them.

Radioactive material carries with it a lot of emotion. I believe the state's position addresses the fears of many. We want INEL to be clean. We want your operations to be safe. We want to see nuclear waste go to safe geologic repositories for permanent disposal. We also want good jobs at INEL, but simply bringing nuclear material to Idaho for indefinite "long term storage" does not achieve that objective and does not meet the spirit or letter of the agreement that was reached last year.

² Department of Energy National Government Association handout, "Department of Energy Nuclear Materials and Waste Status and Pending Decisions, March 19, 1996." Relevant graphs attached.

³ For more information, contact Dave Farnski, Bureau Chief, Enforcement Bureau, Idaho Division of Environmental Quality, 208-373-0507.

(99.5 Metric Tons- MT)

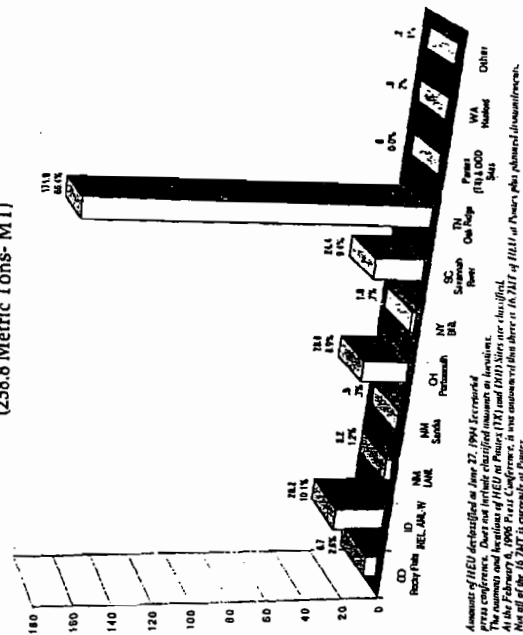


Source: Secretary O'Leary announced on February 6, 1998 that the actual inventory of Pu is 99.5 MT.

Note: The Power (TX) and DOD Sites category includes Plutonium not currently at Pantex. Specific comments and footnotes are included.



Partial Inventory - Highly Enriched Uranium (258.8 Metric Tons- MT)



Source: Amounts of HEU identified as June 30, 1994 inventory.
The numbers and locations of HEU at Pacific (TX) and (MI) sites are classified.
Note: The February 8, 1995 Press Conference, it was announced that there is 16.7 MT of HEU at Pacific plus plutonium disassembled.
Note as of 10/10/11 it currently at Pacific.

10/10/11

STATE OF MICHIGAN, STATE REPRESENTATIVE, LANSING, MI,
KAREN WILLARD
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HOUSE OF REPRESENTATIVES
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COMMITTEE:
AGRICULTURE AND FORESTRY
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ENERGY AND TECHNOLOGY
GOVERNMENT AND POLITICAL
SYSTEMS AND REGULATION

April 26, 1996

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

REF: Storage and Disposition of Weapons-Usable Fissile Materials Draft Programmatic
Environmental Impact Statement.

I am writing to communicate my serious concerns regarding one of the options
presented in the reactor category of disposition alternatives in the above-cited PEIS.

It is my understanding that one of the reactor sites being considered by the Department
is the heavy water Canadian Deuterium Uranium (CANDU) reactors on the shore of Lake
Huron near Kincardine, Ontario. It is also my understanding that the plutonium-based mixed
oxide fuel used by these reactors may be refined in Washington state and transported to the
CANDU site, possibly through the state of Michigan.

I represent the residents of Lapeer and St. Clair counties, located in the lower Thumb
region of eastern Michigan. My district is in close proximity to the two sites in Michigan's
lower peninsula which serve as ground transportation connections between the United States
and Canada. The Blue Water Bridge between Port Huron, Michigan, and Sarnia, Ontario; and
the Windsor Bridge/Tunnel system between Windsor, Ontario, and the City of Detroit. The
two major highways into Port Huron, Interstates 69 and 94, each run through the area I
represent.

My concerns lie primarily with the safety of transporting weapons-grade plutonium
fuel, which is volatile and highly carcinogenic, over ground from Washington state through
densely populated areas of the U.S. and, particularly, the state of Michigan. If nuclear fuel is
to be transported through Michigan to Canada on our Interstate highways, it will have to travel
through major metropolitan areas of the lower peninsula either along I-94 (Kalamazoo, Battle
Creek, Jackson, Ann Arbor, Dearborn and the Detroit Metro area) or along I-69 (Lansing,
Flint, Port Huron). Additionally, the I-69 corridor runs the length of my House district,
through Lapeer and St. Clair counties.

1/10.00.00

M-056

10 00 00 Comment Number 1

Under NEPA, DOE is required to evaluate a range of alternatives for Pu disposition. In that regard, the disposition of Pu in a CANDU reactor is one of nine different disposition alternatives analyzed in the PEIS. Six specific sites and a generic site are evaluated for fabricating MOX fuel for Pu disposition. As a result, the transportation analyses performed in the PEIS consider multiple routes from potential fuel fabrication sites to potential reactor sites. Section G.6 provides a description of the DOE safe secure transport system. The design of vehicle and transportation operation procedures is classified. The selection of the routes and coordination with State and local governments are contained within these procedures. However, there has never been a failure of this system to provide safe secure transportation during more than 20 years in operation.

For emergency response circumstances, all shipments will be coordinated with appropriate State and local officials. If requested, DOE will assist appropriate officials with response plans and, if necessary, resources in accordance with guidelines established in DOE Order 5530.3. DOE has developed a Radiological Assistance Program, also outlined in DOE Order 5530.3, to provide assistance in all types of radiological accidents. Regional Radiological Assistance Program plans include coverage of the States and provide guidance for maintaining and executing emergency response plans.

STATE OF MICHIGAN, STATE REPRESENTATIVE, LANSING, MI,
KAREN WILLARD
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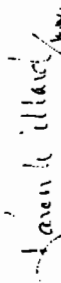
U.S. Department of Energy
Office of Fissile Materials Disposition
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Realizing that the CANDU option is one of just several the Department is considering, I would strongly urge the Department to consider the above described transportation routes through the U.S. to be unacceptable. Especially, I ask you to consider that from the Western U.S. there are many access points to Canada that do not involve international waterways, bridges or tunnels. 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. I strongly recommend that the Department look carefully into alternative methods of transportation, including ground transportation from the processing site in Washington state through Canada to the Ontario reactor site.

1/10.00.00
cont.

Thank you for the opportunity to express my views on this important health and safety issue.

Sincerely,



Karen Willard
State Representative, 52nd District

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STATE OF NEVADA, DEPARTMENT OF ADMINISTRATION,
CARSON CITY, NV, JULIE BUTLER
PAGE 1 OF 14

BOB MILLER
Governor

STATE OF NEVADA

JOHN P. CONEALUX
Director



DEPARTMENT OF ADMINISTRATION

Capitol Complex
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June 7, 1996

J. David Nulton
Director, NEPA Compliance & Outreach
U.S. Department of Energy
Office of Fissile Materials Disposition
P.O. Box 23786
Washington, D.C. 20026-3786

Re: SAH 96300140: State of Nevada Comments on the U.S. Department of
Energy's Draft Programmatic Environmental Impact Statement on the Storage
and Disposition of Weapons-Usable Fissile Materials

Dear Mr. Nulton:

Thank you for providing us the opportunity to review the Draft Storage and
Disposition of Weapons-Usable Fissile Materials Programmatic Environmental Impact
Statement (PEIS). As you might recall, in October 1994, the State of Nevada
submitted detailed scoping comments on the Notice of Intent (NOI) for this PEIS.

The following comments on this Draft PEIS focus on national issues relevant to
the storage and disposition of fissile materials, as well as on local issues pertinent to the
Nevada Test Site. We conclude with a summary of these national and local issues.

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01 00 00 Comment Number 1

Comment noted. Consideration will be given to the link between storage and disposition in the decisionmaking process.

DOE Storage and Disposition PEIS June 7, 1996 Nevada SAI #96300140

NATIONAL PERSPECTIVE

Over the past six years, State of Nevada officials have consistently and deliberately participated in the review of Department of Energy (DOE) plans and programs concerning the management and disposition of DOE-controlled radioactive waste and fissile materials. We have offered substantive comments on a variety of proposed actions including the NOIs for the now defunct Reconfiguration PEIS and the "active" Pantex EIS, as well as lengthy comments on the Idaho Spent Fuel PEIS, the Environmental Management PEIS, the PEIS for Stockpile Stewardship, and the NTS Site-Wide EIS. In all of these comments, we have consistently tried to embrace a national perspective while acknowledging that DOE must address local issues and concerns in order to achieve workable decisions concerning the long-term management and disposition of nuclear wastes and fissile materials.

In previous comments, we have stated that the federal government must first develop a preferred alternative for the permanent disposition of special nuclear materials like plutonium and highly enriched uranium (HEU), before selecting sites for interim or long-term storage. Specifically, we stated that "DOE should link long-term materials consolidation and management with options for final materials disposition."¹

In reference to surplus plutonium, we concur with the National Academy of Sciences' finding that disposition options for this long-lived material will take decades to carry out. Therefore, we believe that to reduce the risks of fissile material

1/01.00.00

¹ Letter dated October 29, 1993 from Robert R. Loux, State of Nevada, to Mr. Howard Carter, Deputy Assistant Secretary, Office of Weapons Complex Reconfiguration.

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proliferation, a major policy concern for the country and the world, DOE must link plutonium storage and disposition functions at as few federal sites as possible. Taking such action would reduce the overall risks to public health and the environment. Linking plutonium storage and disposition functions would also diminish the socioeconomic impacts caused by risk and stigma issues typically associated with transporting nuclear materials and radioactive waste on public highways.

Given our recent participation in numerous briefings and meetings with Department officials, however, we believe that DOE will not seriously consider linking surplus plutonium storage with materials disposition. In essence, this means that DOE will likely segregate the decision process for long-term (50 year) plutonium storage from the more separate plutonium materials disposition alternatives evaluated in the Storage and Disposition PEIS (see *attached*). Unfortunately, adopting such a strategy will result in the federal transportation of plutonium-bearing materials through cities and communities throughout the country. We contend that such a campaign will not be acceptable to the public.

For example, if DOE selects the "No Action Alternative" for long-term storage of surplus plutonium at the six existing DOE sites² assessed in the PEIS and then decides to adopt a plutonium disposition strategy such as Immobilization³ and Reactor

² Hanford, WA; Los Alamos, NM; Rocky Flats, CO; Pantex, TX; Savannah, SC; and INEL, Idaho.

³ Two primary immobilization technologies include vitrification (i.e., into glass) and ceramic immobilization. Vitrification is the technology of choice for treatment of the estimated 100 million gallons of defense high-level waste in storage at DOE's Hanford and Savannah River sites.

1/01.00.00
cont.

10 00 00 **Comment Number 2**

Historically, the risk from transporting highly radioactive materials is low. This is because safety is built into the packaging. There has not been an accident release of radioactive material which has caused injury or death during more than 40 years of DOE shipment activity. Perceived risk is beyond the scope of this PEIS. The potential risks from the transportation of materials for each alternative are evaluated and presented in Section 4.4 and Appendix G.

09 08 08 **Comment Number 3**

The socioeconomic analysis estimates impacts to employment, income, housing, and community services. These impacts are estimated using standard methodology, and can be quantified and compared across sites. Addressing "risk perception" issues would be highly speculative and not quantifiable. Furthermore, it would not be possible to compare alternatives in a consistent manner.

DOE Storage and Disposition PEIS June 7, 1996 Nevada SAI # 94320140

Burn⁴, surplus plutonium-bearing materials will be continuously transported for many years between several DOE sites. While DOE's risk analyses for the routine transportation of radioactive waste and fissile materials always seem to demonstrate little or no impact in terms of accident fatalities and latent cancer deaths, these analyses routinely fail to address the perceived risk issues which inevitably will result from these transportation activities.

Risk Perception: Large scale shipments of plutonium-bearing materials along the nation's highways and rail lines, especially through large urban areas, will cause significant adverse socioeconomic and cultural impacts even if no accidents occur. Typically these impacts will manifest as negative stigmatizing socioeconomic effects. Research⁵ has demonstrated that nuclear-related activities such as radioactive material transportation have the potential to result in significant socioeconomic impacts. These impacts originate in intense negative perceptions and avoidance behaviors by the public. Public and media interest in "things nuclear" makes it almost certain that these negative perceptions will adversely affect a community's quality of life and subsequently its commercial, residential, and business investment opportunities.

⁴ Reactor burn refers to "burning" surplus plutonium in one or more nuclear reactors. To achieve this, surplus plutonium must be converted into fresh fuel for use in one or more U.S. reactors or in one of the CANDU reactors owned and operated by the Canadian government. Using weapons-grade plutonium, primarily from DOE's Pantex plant in Texas, DOE would process or convert plutonium "pits" into fresh fuel at a new Mixed Oxide (MOX) fuel fabrication facility to be located at one of the six DOE sites evaluated in the PEIS. This fresh fuel would in turn be burned at an existing commercial reactor, the Canadian CANDU reactors at the Bruce Power Station, or a newly constructed (or acquired) DOE reactor.

⁵ State of Nevada, Nuclear Waste Project Office. Publication numbers NWPO-SF-022-89; 056-93; and 063-95.

DOE Storage and Disposition PEIS	June 7, 1996	Nevada SAI # 96300140
There is also considerable uncertainty about the federal government's ability to safely manage radioactive materials, and because of this, the public has developed a very strong aversion to "things nuclear." Given this legacy, along with the inevitability of associated negative risk perceptions caused by the transportation of nuclear materials, we are disappointed that this Draft PEIS fails to address risk perceptions issues and their relationship to potential negative socioeconomic impacts as part of the NEPA (National Environmental Policy Act) impact analysis process. Accordingly, if DOE adopts a proposed action and implements a Record of Decision that results in a fragmented approach between the management of long-term plutonium storage and a final disposition strategy, then the Department should be prepared for widespread public controversy and litigation leading to additional and costly NEPA documentation. Such action, of course, will be driven by the public's aversion to the "excessive" transportation of plutonium-bearing materials on the nation's highways. And any accidents or incidents that occur during the shipping campaigns will only serve to exacerbate the situation. Cumulative Impacts: If plutonium storage and disposition are not consolidated at one or more federal sites, DOE's decision process could result in a deficient analysis of cumulative impacts to the human and natural environments. This situation could intensify as other "programmatic," department-wide NEPA decisions are made that cover the treatment, storage, and disposal of other waste forms^a at the same sites selected for long-term plutonium storage and disposition.	4/15.00.00	
	5/10.00.00	

^a Civilian and defense spent reactor fuel, mixed waste, low-level waste, special-case waste, etc.

15 00 00 Comment Number 4

Risk perception is a subjective issue that varies from person to person. DOE does not attempt to quantify risk perception in order to provide an objective environmental impact analysis.

10 00 00 Comment Number 5

The maximum number of shipments of radioactive materials for an entire campaign, regardless of the alternative selected, is very small (about 0.03 percent per year) compared to the number of hazardous material shipments made nationally. Furthermore, the DOE safety history record is excellent. There have been no injuries or deaths caused by the release of radioactive materials in over 40 years of DOE shipments. While a transportation accident is possible, it is highly unlikely that there would be a release of radioactive material due to the stringent safety standards required for the packaging and operations.

STATE OF NEVADA, DEPARTMENT OF ADMINISTRATION,
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11 00 08	Comment Number 6
Comment noted. The cumulative impacts of various potential actions at the DOE sites are analyzed in Section 4.7 of the PEIS. In response to public comment, the analysis of cumulative impacts has been expanded for the Final PEIS. The Final PEIS, including public comments and cumulative impacts, will be considered in the DOE decisionmaking process.	
08 03 00	Comment Number 7
The Department of Energy is not required to prepare a cost-benefit analysis. However, if one is prepared and it can help differentiate between the alternatives, it would be included in the PEIS. DOE has determined that a cost-benefit analysis is not needed on the storage and disposition of weapons-usable fissile materials, since there are a number of factors that distinguish the alternatives from each other.	
Cost data, along with technical and schedule data, was provided for public comment in Technical Summary Reports for both storage and disposition in the summer of 1996.	

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As DOE is aware, decisions concerning materials storage and disposition will play a key role in determining the potential cumulative environmental impacts and radiological human health risks at the federal sites selected for such activities. How DOE chooses to address the timing of these decisions in relationship to other department-wide programmatic NEPA decisions that pose similar risks is not at all clear. If political interests supersede environmental and radiological human health concerns in this uncertain decision process, then again we contend that such decisions will likely not be acceptable to the public.		
<i>Cost-Benefit Analysis:</i> State officials also believe that a cost-benefit analysis should be developed to support a programmatic decision concerning which technology is eventually used for plutonium disposition. The National Environmental Policy Act requires federal agencies to balance the environmental costs of a proposed action against the action's economic and technological benefits.⁷ According to the regulations of the Council on Environmental Quality concerning cost-benefit, "an environmental impact statement should at least indicate those considerations, including factors not related to environmental quality (cost-benefit), which are likely to be relevant and important to a decision."⁸ Selecting a disposition option(s) for surplus plutonium is clearly a major programmatic decision that will have significant cost implications.		
According to the analysis of socioeconomic "benefits" presented in the PEIS, it is clear that the Reactor Burn Alternative along with the need for developing a MOX		
⁷ 42 U.S.C. § 4332(2)(B) ⁸ CEQ CEA Part 1502.23		
6/11.00.08		
7/08.03.00		
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DOE Storage and Disposition PEIS June 7, 1996 Nevada S&I # 9600140

(Mixed Oxide) fuel fabrication facility will generate the greatest economic impact when compared to the other disposition alternatives under consideration. Yet, without a general assessment of comparative life-cycle costs for the various disposition technologies, the public is unable to determine the long-term costs/benefits of selecting one alternative over another. Because the Reactor Burn Alternative could have significantly different life-cycle costs impacts in comparison to the other disposition technologies, the Final PEIS should at least contain an informal cost-benefit analysis. The Final PEIS should also discuss the relationship between the cost-benefit analysis of the various disposition technologies and any unquantified environmental effects such as reactor decommissioning, the generation and disposal of mixed, low-level, and solid wastes, etc.

Under the current Administration's guidance, DOE has initiated several "openness initiatives" aimed at both expanding and soliciting public participation in the Department's decision making process. DOE has also demonstrated a certain sensitivity toward assessing the costs associated with other major programmatic decisions⁹ involving the production of nuclear materials and/or disposition of nuclear waste. However, these analyses were specifically excluded from the formal NEPA documentation process and were generally reserved for internal use to support DOE's NEPA decision making process. While justification for excluding a cost-benefit analysis for these other actions remains questionable, because of the high cost associated with the Reactor Burn Alternative, there is a clear and obvious need to

⁹ See U.S. Department of Energy, 1995, Technical Reference Report for Tritium Supply and Recycling, DOE/DP-0134, and U.S. Department of Energy, 1996, Analysis of Stockpile Management Alternatives, February 1996, Albuquerque Operations Office.

7/08.03.00
cont.

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STATE OF NEVADA, DEPARTMENT OF ADMINISTRATION,
CARSON CITY, NV, JULIE BUTLER
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01 02 00	Comment Number 8
Comment noted. The purpose of the Proposed Action for Pu disposition is to convert the surplus weapons-usable Pu into a form that meets the Spent Fuel Standard. In the case of MOX fuel use for reactors, the fuel would be used in a once-through cycle without reprocessing. It is true that MOX fuel in reactors would not consume all the Pu. However, meeting the Spent Fuel Standard would make the residual Pu in the spent fuel as difficult to extract for weapons use as that in commercial spent fuel.	
09 01 02	Comment Number 9
A review of the four Public Land Orders was conducted in 1983 by the Bureau of Land Management (BLM) in accordance with the <i>Federal Land Policy and Management Act</i> of 1976 (FLPMA). The BLM District Manager concurred with the conclusion of the review that NTS lands were still being used for the purpose for which they were withdrawn. The Department of Energy is committed to ensuring that all future activities at NTS are conducted in compliance with FLPMA and Federal land withdrawal policies. DOE will consult with the Department of the Interior to ensure that the appropriate process is followed to enable DOE to fulfill this commitment.	

DOE Storage and Disposition PEIS	June 7, 1996	Nevada SAI # 96-000140
provide a general analysis of costs and benefits of the nine disposition alternatives presented in this Draft PEIS.		
In a related matter, State officials do acknowledge that a decision to adopt the plutonium burn option using any of the reactor alternatives will have certain national and international policy implications. On one hand, agreeing to participate in the "Plutonium Fuel Cycle" – albeit limited to defense related purposes – presents an obvious conflict with U.S. policies that support the non-proliferation of special nuclear materials.¹⁰ Alternatively, by not choosing the plutonium burn-up option, the U.S. could undermine certain international objectives aimed at reducing the stockpile of weapons-grade plutonium held by Russia and other nuclear countries. In any event, while these national and international policy considerations cannot be ignored, neither can the selection of a plutonium disposition option that will "bust the budget," given other DOE program priorities that must compete in a time of no-growth budget cycles for the foreseeable future.		
LOCAL ISSUES – NEVADA TEST SITE		
On page S-20 of the PEIS, as well as in other sections of the document, it is stated that certain alternatives, such as consolidation of Highly-Enriched Uranium along with an estimated 38 tons of weapons-grade plutonium at the Nevada Test Site (NTS), would be "inconsistent with the NTS withdrawal." As you know, in comments on the NOI for this PEIS, we suggested that certain institutional constraints that		
¹⁰ Although reactor-based plutonium burn-up technologies will bind weapons-grade plutonium in a form that meets the Spent Fuel Standard, such technologies will not eliminate all of the plutonium isotope, and a significant amount of plutonium will remain in a form that still requires final disposition.		
7/08.03.00 cont.	8/01.02.00	9/09.01.02
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DOE Storage and Disposition PEIS June 7, 1996 Nevada SAI # 96000140

directly affect the Nevada Test Site should be analyzed if the NTS were to be considered for any major projects such as long-term storage and/or disposition of fissile materials. Specifically, we stated that "DOE must resolve certain administrative constraints that limit uses of the NTS (and that) such restraints are contained in the Public Land Orders that authorized the land withdrawal for the site." We are pleased that DOE has finally acknowledged that stipulated facility-use restrictions are contained in the Public Land Orders for the NTS withdrawal.

Because it appears that NTS will probably not be selected as a preferred alternative for either long-term storage or fissile materials disposition, we have purposely forgone a detailed review of the environmental impacts presented in the draft PEIS. However, if the final PEIS includes any proposed actions for the NTS, DOE must acknowledge that the Public Land Orders¹¹ for the NTS do in fact limit the use of the site to weapons testing and related research and development facilities only. When the Nevada Legislature ceded its jurisdiction to the public lands that now comprise the NTS, it did so on the basis of these stipulated uses. And, although many believe the lands comprising the NTS are federal lands, they are in fact public lands that have been withdrawn for a specific national defense purpose, and that purpose does not include long-term storage of fissile materials, nor development of any major disposition technologies such as plutonium immobilization and/or MOX fuel fabrication and reactor burn-up of fissile materials.

9/09.01.02
CONT.

¹¹ Public Land Orders 805, 1662, 2568 and 3579. Bureau of Land Management (BLM), 1984. Continuation of Withdrawals, Department of Energy, Nevada Test Site 4310-04. (This file is located at the BLM State Office in Reno, Nevada.

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DOE Storage and Disposition PEIS	June 7, 1996	Nevada SA # 96300140
If, in the unlikely event that DOE selects the NTS for one or more of these activities, then the Department must propose a path forward in the Final PEIS and Record of Decision that specifically addresses actions concerning altering the mission of the NTS. Formally altering that mission, moreover, must include a process for seeking approval from the Nevada Legislature to use the site for purposes other than nuclear testing.		
CONCLUDING SUMMARY COMMENTS As mentioned above, we are providing a list of specific summary comments that cover both national and local issues of concern. We would appreciate DOE's careful review of these comments and their consideration during preparation of the Final PEIS for storage and disposition of fissile materials.		
o State officials in Nevada believe that DOE should link long-term fissile materials consolidation and storage with options for final materials disposition. This means that the proposed action presented in the Final PEIS should support a decision that co-locates long-term storage with one or more of the plutonium disposition/treatment options. Linking long-term fissile materials storage and disposition will reduce risks and risk perception issues associated with the unnecessary transportation of fissile materials on public roads and highways throughout the country.		
o A prolonged shipping campaign of plutonium-bearing materials along the nation's highways, especially through large urban areas, will cause significant adverse socioeconomic and cultural impacts even if no accidents occur. Hence, if a proposed action is put forth in the Final PEIS that results in prolonged shipments of fissile		
M-268		

08 03 00 Comment Number 10

It is recognized that the decision to locate any of the alternatives at a site would require coordination with State and local officials on a variety of areas including the mission of the site.

01 00 00 Comment Number 11

Comment noted.

10/08.03.00

11/01.00.00

2/10.00.00

cont.

4/15.00.00

cont.

DOE Storage and Disposition PEIS	June 7, 1996	Nevada SAI # 96300140
materials, then DOE must address risk perceptions issues and their relationship to potential negative socioeconomic impacts as part of the environmental impact analysis process (i.e., as per CEQ 1502.1 and 1502.16). - Decisions concerning fissile materials storage and disposition will play a significant role in determining potential cumulative environmental impacts and radiological human health risks at the federal sites selected for such activities. Accordingly, in presenting a proposed action in the Final PEIS for long-term storage of surplus plutonium, DOE must address the impacts of such a decision on other existing and pending department-wide programmatic NEPA decisions that pose similar risks at the selected site(s); we also contend that such an analysis must apply to those sites where it is obvious that a decision will be implemented for one or more of the technologies being considered for materials dispositions (i.e., immobilization and/or reactor burn). - State officials strongly believe that a cost-benefits analysis must be developed to support a programmatic decision concerning which technology is eventually selected for plutonium disposition. Clearly, under the regulations of the National Environmental Policy Act (CEQ 1502.23), DOE is authorized, and we believe obligated, to present an informal, balanced assessment of costs and benefits for the competing plutonium disposition technologies. Moreover, because the Reactor Burn Alternative will have significantly higher costs and potentially more profound environmental impacts than the other disposition technologies, a cost benefits analysis is clearly warranted and should be included in the Final PEIS.	4/15.00.00 cont.	
	6/11.00.08 cont.	
	7/08.03.00 cont.	
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STATE OF NEVADA, DEPARTMENT OF ADMINISTRATION,
CARSON CITY, NV, JULIE BUTLER
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- o If DOE selects the Nevada Test Site for either long-term storage of surplus plutonium or the development of any new facilities to support plutonium disposition (e.g., MOX Fuel Fabrication), State officials contend that the Department must propose a path forward in the Final PEIS and Record of Decision that specifically addresses the facility-use restrictions contained in the Public Land Orders for the NTS withdrawal.

10/08.03.00
cont.

Again, we appreciate the opportunity to provide comments on the Draft Storage and Disposition PEIS. If you have any questions about these comments, please contact me or Mr. John B. Walker, Nuclear Waste Project Office at 702-687-3744.

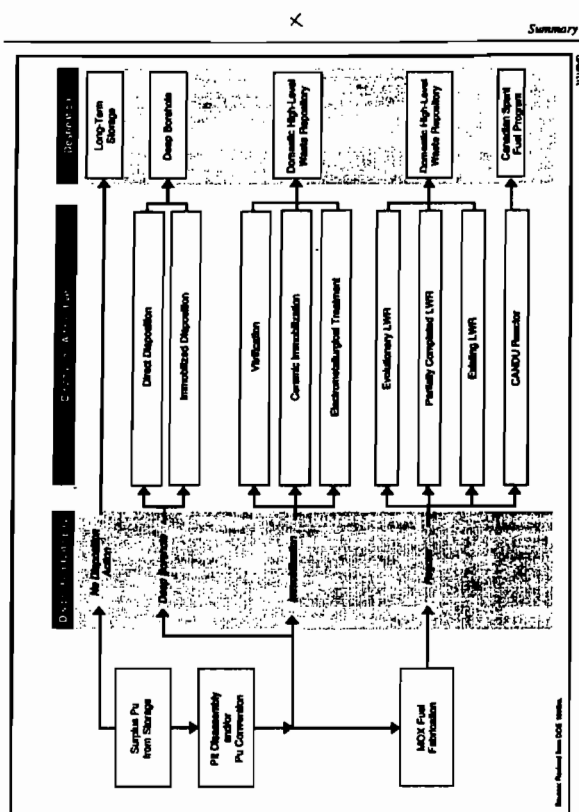
Sincerely,

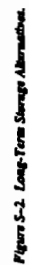
Julie Butler

Julie Butler, Coordinator
State Clearinghouse, DOA/SPOC

JB\bw
cc: Governor Bob Miller
Nevada Congressional Delegation
Perry Comeaux, Dept. of Administration
Robert R. Loux, NWPO
Harry Swainston, Deputy Attorney General
Lew Dodgson, Nevada Division of Environmental Protection
Affected State Agencies
Leo Penne, State of Nevada, Washington Office
John Thomasian, NGA
Terry Vaeth, Joseph Fiore, Don Elle, DOE/NV
Carol M. Borgstrom DOE/HQ/NEPA
Ann Morgan, State Director, BLM

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STATE OF OREGON, DEPARTMENT OF ENERGY, SALEM, OR,
JOHN SAVAGE
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Oregon

DEPARTMENT OF
ENERGY

June 7, 1996

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

The Oregon Department of Energy appreciates the opportunity to comment on the Storage and Disposition of Weapons-Usable Fissile Materials Draft Programmatic Environmental Impact Statement (DOE/EIS-0229-D). Our detailed comments on the draft are attached.

Oregon opposes the use of Hanford for any aspect of the plutonium disposition effort, that will result in creating more waste at Hanford, or will delay Hanford cleanup. We recommend that the Final EIS consider only Deep Borehole, CANDU reactor and vitrification with cesium alone or vitrification with high-level waste using the "can in can" process. Support for this recommendation is included in the attachment.

One other substantive issue was raised by a broad cross section of Oregonians. That issue is that each of the potential sites be treated equitably. Our citizens expressed strong opinions that with Hanford, the Idaho National Engineering Lab, and nerve gas storage at the Umatilla Army Depot, the Pacific Northwest has already borne more than its share of potential exposures to government owned hazards.

Storage Options

We believe neither the Fuels and Materials Examination Facility (FMEF) nor the Plutonium Finishing Plant (PFP) are suitable facilities for the purpose proposed.

FMEF is proposed as one possible facility for expanded storage of plutonium and processing of the plutonium for use in mixed oxide fuels. There are multiple problems with this approach. FMEF cannot hold the entire inventory of plutonium. FMEF is currently an uncontaminated facility close to Richland. Prior experience with fuels manufacturing, and plutonium processing indicates contamination of surrounding areas will occur. Most of the Hanford site is contaminated. It is unacceptable to consider contaminating more of the site.



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08 03 01

Comment Number 1

The Department of Energy acknowledges the commentor's opposition to new missions at Hanford.

Funding for all alternatives under the Fissile Materials Disposition Program will be through the government budget process. This program will be funded independently of the Hanford cleanup activities. The Plutonium Finishing Plant (PFP) is only considered under the No Action Alternative in which Pu storage would continue at the current interim storage location in a stabilized form pursuant to DNFSB Recommendation 94-1 and the ROD for the *Plutonium Finishing Plant Stabilization Environmental Impact Statement* (PFP EIS) (DOE/EIS-0244-F).

The PFP EIS analysis concludes that PFP key facility buildings exceed the seismic design standards currently used at Hanford. Further, operation of systems and equipment with the PFP would not begin until a safety analysis has been completed.

01 04 00

Comment Number 2

Comment noted. Decisions will be based on the PEIS, among other things, which will include these comments from the Oregon DOE.

1/08.03.01

2/01.04.00

1/08.03.01
cont.

Plutonium Disposition PEIS Comments
June 7, 1996
Page 2

The Plutonium Finishing Plant (PFP) is also proposed for this mission. The existing structures at PFP are not designed to existing seismic criteria. The surrounding areas are extensively contaminated, and may never be adequately cleaned up to protect human health or the environment. Adding contamination to this already serious problem does not make sense. The unknown location of over one metric ton of plutonium which is unaccounted for at Hanford increases our concern that safety can be assured.

We believe the facilities at PFP do not meet industrial or nuclear safety standards for this process.

Disposal options

We considered several criteria for evaluating the merit of the various options:

1. The ability to permanently dispose of plutonium.
2. Speed of removal of the plutonium from potential reuse in weapons.
3. Cost.
4. Acceptability to other nations.
5. Security and degree of radiation protection.

In an ideal world, we would prefer complete destruction of the plutonium. None of the potential options will destroy most of the plutonium.

Deep Borehole emplacement could rapidly remove the plutonium from weapons usability. There are technical uncertainties with deep borehole which limit our ability to analyze potential consequences. The EIS makes no proposal for siting such a disposal facility. Finding an acceptable site will be difficult and time consuming.

The Canadians have expressed interest to act as an intermediary by using Canadian CANDU reactors to dispose both American and Russian plutonium. We believe this is a viable option which has merit. This option results in a net reduction in the amount of spent fuel created for disposal in the Canadian high level nuclear waste repository. This would represent a significant departure from the design basis for the CANDU reactors. The EIS does not provide sufficient analysis of the potential impacts to allow a definitive technical decision on this alternative.

We oppose completion of obsolete reactors. The control equipment design for these reactors is obsolete and will necessitate major redesign and upgrades. They will be costly to complete and will produce additional spent fuel requiring disposal. We oppose construction of new

1/08.03.01
cont.

3/01.00.00

4/04.03.00

5/06.05.08

6/08.03.01

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01 00 00 Comment Number 3

Comment noted.

04 03 00 Comment Number 4

Comment noted.

06 05 08 Comment Number 5

The PEIS does not intend to cover the entire range of issues to make definitive technical decisions on alternatives. A separate Technical Summary Report is available to describe the technical impacts of the CANDU Reactor Alternative more fully.

08 03 01 Comment Number 6

The Department of Energy acknowledges the commentor's concern about the disposition of Pu using the partially completed LWR (commercial). However, should this alternative be selected in the ROD, these reactors would be completed in accordance with current codes and standards with appropriate upgrades to equipment and systems. The analyses of the environmental impacts for completing these reactors and the fuel management (fresh MOX fuel and spent fuel) are included in this PEIS. Decisions on the disposition of weapons-usable fissile materials will be based on environmental analyses, technical and economic studies, national policy considerations, and public input.

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reactors. They will be costly to complete and will produce additional spent fuel requiring disposal. Use of other reactors designed for mixed oxide fuel is feasible, but both deep borehole disposal and vitrification have greater merit and less apparent adverse impacts.

The EIS lacks information on costs and detailed impacts of the various options. Without this information, it is not possible to select a final remedy. This is a major flaw in that technical and public commenters are faced with a huge gap in the information needed to adequately judge the tradeoffs between alternatives.

We oppose vitrification directly with high level waste. Vitrification of high level waste alone is already extremely complex. Adding plutonium to this mix could greatly raise the risk of failure for both the waste and plutonium disposal missions.

Recent successful demonstration runs at Savannah River offer an immediate solution which uses a "can in can" approach to vitrifying the plutonium and embedding it in vitrified high level nuclear waste. Hanford's cesium could readily be added to the Savannah River waste feed stock to increase the radiation barrier.

The available lands at Hanford which could be selected for such a mission fall primarily in critical shrub-steppe habitat. These lands are already compromised by the cleanup mission.

Electrometallurgical treatment is unproven technology and should not be selected.

Major Concerns about the EIS

Summary:

- ♦ ODOE is concerned the EIS does not identify the proposed action, as required by the National Environmental Policy Act. Instead it identifies a range of potential actions. This does not allow the public to adequately assess what USDOE proposes.
- ♦ The Oregon Department of Energy, the Oregon Hanford Waste Board and the public were troubled to find no discussion of the costs for each option and cost comparisons between options in the EIS. These cost comparisons should be included in the final EIS.
- ♦ The EIS fails to analyze the environmental impacts for Hanford. It does make repeated references to the "Hanford Site Development Plan", and to the impacts being negligible.

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08 03 01	Comment Number 7	The Department of Energy acknowledges the commentor's support for the Borehole and Immobilization Alternatives. Decisions on disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.
08 00 00	Comment Number 8	In the interest of openness and more informed decisionmaking, DOE released Technical Summary Reports to the public as soon as they became available. Cost data, along with technical and schedule data, were provided in Technical Summary Reports of both storage and disposition in the summer of 1996. Results of the nonproliferation analysis were made available in the fall of 1996. Each of these analyses, along with the environmental analysis, and public input will be integrated into DOE's decisionmaking process.
08 03 01	Comment Number 9	The Department of Energy acknowledges the commentor's opposition to the Vitrification Alternative. Decisions on disposition of weapons-usable fissile materials will be made based upon environmental analyses, technical and economic studies, national policy considerations, and public input.
08 03 01	Comment Number 10	The Department of Energy acknowledges the commentor's support for SRS. Decisions on storage and disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.
09 06 01	Comment Number 11	The importance of shrub steppe habitat is acknowledged in the PEIS. The analysis identifies how much of this type of habitat may be lost, both in terms of acreage and as a percentage of the site. The cumulative loss of shrub steppe

STATE OF OREGON, DEPARTMENT OF ENERGY, SALEM, OR,
JOHN SAVAGE
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Page 4

Neither the plan, nor the conclusion that impacts are negligible have been accepted by the stakeholders or local communities.

14/09.01.01
cont.

♦ The shrub-steppe habitat at Hanford is critical to many species on site. This habitat has been designated as critical for protection by the State of Washington. Many of the species that depend on this habitat are listed or under consideration for listing as rare threatened or endangered by the State and Federal governments. This EIS must analyze in detail the potential impacts from proposed actions and the cumulative impacts from all other projects proposed or considered which may impact the same habitats.

♦ The EIS uses the urgency of securing the plutonium to drive the urgency for plutonium disposition. We believe these need not be so tightly linked. The security issues are paramount and must proceed immediately. The storage problems must likewise be solved in the very near term to allow us to comply with international disarmament treaties.

15/01.00.00

Plutonium disposition is important to ensure the permanency of disarmament here and in Russia. However, some technical options may be feasible with more time for analysis, like disposal in zircon or other mineral waste forms.

16/14.00.00

Public Involvement

Enclosed is a copy of "The Oregon Approach: A Grassroots Method to Achieve Meaningful Public Involvement", February 1996. This is our report on what we learned about Oregonians concerns about plutonium disposition and how to communicate with citizens on such issues. We believe it could serve as a model for USDOE public involvement.

Attached is a more detailed discussion of the draft EIS. If you have any questions in this regard, please contact Mary Lou Blazek at (503)378-5544 or Dirk Dunning at (503)378-3187.

Sincerely,



John Savage, Administrator
Oregon Department of Energy

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habitat was also determined. This loss will be considered, as will all other environmental impacts, during the decisionmaking process prior to issuance of the ROD.

The PEIS will support a siting decision for long-term storage and a technology decision for the disposition of Pu. The only storage alternatives that would result in additional land disturbance at Hanford would be the Collocation and Consolidation Alternatives. Any adverse impacts to biological resources resulting from siting decisions would be mitigated and addressed in site-specific environmental documentation. Mitigation measures could include minimizing the area disturbed and developing and implementing a vegetation plan that would lead to the establishment of sagebrush habitat on disturbed land.

08 03 01 Comment Number 12

The Department of Energy acknowledges the commentor's opposition to the Electrometallurgical Treatment Alternative. Decisions on disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

08 03 00 Comment Number 13

As stated in Chapter 1 of the PEIS, the basic action proposed by DOE is to place surplus weapons-usable fissile materials into long-term storage until dispositioned. There are a variety of materials involved, in form and type, a variety of material locations, and a range of techniques that could be implemented to accomplish this purpose. Based upon this situation, DOE decided to prepare a PEIS so that the environmental impacts of a very complex situation could be considered in a systematic manner.

09 01 01 Comment Number 14

The Hanford Site Development Plan dated May 1993 (DOE/RL-93-19) is Hanford's current land-use planning document. The PEIS analyzes potential impacts to onsite land use against this document. All storage and disposition

Attachment A Oregon Department of Energy Detailed comments on the Storage and Disposition of Weapons-Usable Fissile Materials Draft Programmatic Environmental Impact Statement		
<u>Summary</u>		
1. Page S-2, second bullet. The EIS assumes and asserts without support that the assertion that the spent fuel standard is adequate to assure that the plutonium from weapons will be inaccessible to terrorists and other nations for the time it will have to be secure. The implicit assumption is that providing any greater degree of protection is futile, as large quantities of spent commercial nuclear fuel which contains larger quantities of plutonium will be accessible to many nations. The EIS asserts that this radiation barrier is necessary. It does not assess whether this barrier is sufficient. The EIS should be expanded to include this assessment.	17/01.04.00	
2. Page S-4, second paragraph. The EIS scope requires that it assess the cumulative environmental impacts in accordance with the requirements of the National Environmental Policy Act. The EIS fails to examine the cumulative impacts to the Hanford environment and habitats. The final EIS should.	14/09.01.01 cont.	
3. Page S-5, last paragraph before DEVELOPMENT OF ALTERNATIVES section. The Department is required by the National Environmental Policy Act to consult with and obtain the comments of other agencies which have regulatory authority or special expertise in the area in question. NEPA requires this consultation to be early in the development of the EIS and throughout its formulation so as to reach good decisions. A copy of these comments is required to be transmitted along with the EIS and to be made available to the public. We request all other agency comments on this EIS.	18/08.02.00	
4. Page S-5, development of alternatives, second paragraph. USDOE's criteria for evaluation of the various options include cost-effectiveness. We request all cost data considered for the EIS to allow us to evaluate this information.	8/08.00.00 cont.	
5. Page S-6, fourth paragraph. USDOE summarily eliminated the Rocky Flats site based on proximity to a major city and plutonium vulnerabilities. The Hanford site is upriver from a large population of Oregonians and Washingtonians which may be adversely effected by actions at Hanford. USDOE should similarly eliminate Hanford from consideration. Either Hanford should also be summarily eliminated from consideration, or Rocky Flats should be included and a thorough analysis performed equal to other sites. Also, citizen input to the Plutonium Vulnerability Assessment at Hanford was NOT included. The site assessment team met with a limited number of stakeholders. They heard, but appeared to disregard, their concerns and comments. The final report states that the citizens concerns were addressed. We believe they	19/01.04.00 20/08.02.00	
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alternatives proposed for Hanford would be in conformance with the *Hanford Site Development Plan*; therefore, no impact to land use would occur. DOE is currently preparing the *Comprehensive Land Use Plan* (CLUP) in conjunction with the *Hanford Remedial Action Environmental Impact Statement* (HRA EIS). The CLUP/HRA EIS is being prepared with stakeholder, governmental, and tribal input. Coordination of these documents with the NEPA process will allow DOE to codify the land use recommendations in a ROD. However, the PEIS references the current *Site Development Plan* (1993) since adoption of the CLUP/HRA EIS will occur beyond the PEIS timeline.

An analysis of cumulative impacts at Hanford is addressed in Chapter 4 of the PEIS.

01 00 00 Comment Number 15

The Department of Energy currently provides adequate security for its Pu activities. The purpose of the Proposed Action is to implement the President's Nonproliferation Policy in a safe, reliable, cost-effective, technically feasible, and timely manner. The storage and disposition alternatives are linked in order to accomplish this purpose. Cost data, along with technical and schedule data, was provided in Technical Summary Reports of both storage and disposition in the summer 1996. Results of the nonproliferation analysis were made available in the fall of 1996.

14 00 00 Comment Number 16

During the screening of alternatives for inclusion in the PEIS, various immobilization forms were considered. The decision was made to include immobilization in ceramic and glass waste forms. The specific ceramic form was not identified. Research and development is both on-going and planned to support a disposition alternative(s), which would include pilot facilities for processes and materials (and could include zircon), as necessary.

20/08.02.00 cont.	were not. Several stakeholders believe that the assessment at the Plutonium Finishing Plant understated the magnitude of the risks and likelihood of their occurrence. No resolution of this issue is apparent.
16/14.00.00 cont.	6. Page S-6, last paragraph. An additional alternative was raised by Los Alamos National Labs: immobilization in artificial zircon. Oregon specifically and formally requested this alternative be analyzed. We find no discussion in the EIS of this alternative. Additionally, information presented at the National Academy of Sciences Symposium on vitrification of high level nuclear waste showed that high borate content glasses may fail completely and release plutonium in less than ten thousand years. USDOE should perform a detailed assessment of the zircon alternative.
1/08.03.01 cont.	7. Page S-12. No Hanford site locations are acceptable for plutonium storage or processing. The Fuels Manufacturing and Examination Facility (FMEF) facility is too close to the city of Richland and the Columbia river. FMEF is currently uncontaminated. Prior experience with plutonium facilities and fuel manufacturing facilities at Hanford shows a high likelihood that such a facility would result in contamination of the land and groundwater. Neither facility is acceptable.
11/09.06.01 cont.	A new facility in the 200 Areas would result in the destruction of shrub-steppe habitat. Any such destruction directly impacts the cleanup of the Hanford site. There is little shrub-steppe habitat left at Hanford. Many species at Hanford which rely on the shrub-steppe are under consideration for listing as rare, threatened or endangered. On-going cleanup actions will require the siting of several large processing facilities. These will destroy significant amounts of shrub-steppe. Additional habitat destruction should not be an option.
21/09.11.01	8. Page S-14, first paragraph, last line states "All immobilized Pu would be encased in stainless steel canisters and would remain in on-site vault-type storage until a final HLW disposal site is operational." Hanford is familiar with temporary - turned long term storage, for liquid waste, buried wastes and cesium and strontium capsules. Hanford must not be used for additional "temporary" nuclear waste storage.
12/08.03.01 cont.	9. Page S-14, Electrometallurgical Alternative. Development of this alternative raises new security risks. This is the reverse of the process developed to separate plutonium and uranium from spent fuel in a single step. The development of this prior capability provides evidence to other nations that it can be done, done safely, done in a small facility and with fairly simple technology. This raises the prospect of reprocessing fuel by small nations using this or similar technologies, combined with simple

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01 04 00 Comment Number 17

The Department of Energy, considering the Spent Fuel Standard, evaluated the adequacy of the Standard versus the greater degree of destruction achievable with other options such as the Deep Burn Reactor Option and the Accelerator Option. It was judged that the Spent Fuel Standard is adequate since it would convert the weapons Pu to a form making it as difficult to retrieve and reuse in weapons as the Pu contained in the much larger existing volume of spent fuel from commercial nuclear reactors.

The Department of Energy concluded that the shorter disposition time achievable with more mature technologies was more desirable than the greater Pu destruction that could only be achieved over a much longer time period through the use of Deep Burn Reactors and Accelerators. The NAS also adopted the Spent Fuel Standard as the most acceptable form for conversion of weapons Pu.

08 02 00 Comment Number 18

The only cooperating agency with the DOE on this PEIS is the EPA. The EPA had not provided DOE with any written comments as of the release of the Draft PEIS. After the release, EPA provided DOE with a written evaluation of the draft rating it EC-2. This means that EPA has environmental concerns because of insufficient information in a certain area. After receipt of the evaluation, DOE met with EPA and provided the information and/or explained the area of concern in more detail. Appropriate changes were made in the Final PEIS. Other Federal, State, and local agencies contacted are listed in Chapter 9 of the PEIS.

01 04 00 Comment Number 19

The selection process for candidate sites for storage, including the selection criteria and reasons for elimination, is described in Chapter 2 of the PEIS.

chemical dissolution and separation of the plutonium. Electrometallurgical treatment should not be pursued and, work already done should remain classified.	12/08.03.01 cont.
10. Page S-15, Reactor Category. Security concerns over the transport of weapons-usable fissile materials provide a strong argument that this operation should be conducted at the plutonium storage facility.	22/06.06.08
11. Page S-15, Existing Light Water Reactors. The second paragraph states "A timely supply of MOX fuel would be needed for disposition of surplus Pu through use of existing LWRs. MOX fuel fabrication at an existing European facilities would be a viable option to meet the interim fuel needs of Existing LWR Alternative." No justification is provided for introduction of MOX fuel into U.S. LWRs earlier than would be available from a U.S. constructed MOX facility.	23/06.01.08
12. Page S-15, Partially Completed Light Water Reactors. Completion of partly completed light water reactors poses several problems. First, the control systems and computers designed for these facilities are no longer manufactured. All of these systems will have to be replaced. The reactor systems may require extensive modification to meet MOX requirements. New reactors would generate additional spent nuclear fuel which would need to be disposed to a national high level waste repository. The first proposed repository at Yucca Mountain is over a decade late and may not have space for this material. All new reactor options should be discarded.	24/08.03.01
13. Page S-16, Evolutionary Light Water Reactor Alternative. See comment 12.	
14. Page S-16, Environmental Impact analysis. The environmental impact analysis excludes analysis of the environmental impacts associated with Tribal Treaty Reserved rights. If the lands are contaminated or destroyed, the Tribe is severely and permanently impacted.	25/09.07.01
15. Page S-22, last paragraph (typical of each major alternative). Adverse environmental impacts at Hanford will likely also include severe impacts on cleanup of wastes and their resultant long term impacts on the site environment and the Columbia river.	26/09.11.01
16. Page S-28, second paragraph (typical of the discussion of each of the options). This paragraph states "However, the annual radiological dose to on-site workers would be within radiological limits, and the dose to the population living within 80 km (50 mi) of the site would be within 100 person-rem per year." This exposure goal does not	27/09.09.08
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08 02 00 Comment Number 20

The Department of Energy's *Plutonium Vulnerability Assessment* is not part of the PEIS. For this reason, this comment has been forwarded to the Office of Defense Programs who prepared the assessment, and EM who conducts actions to correct vulnerabilities.

09 11 01 Comment Number 21

Glass vitrification and ceramic immobilization are processes that put the weapons-usable fissile materials in a solid form that would not be readily dispersible into air or leachable into ground or surface water. The immobilized form would be stored at the glass vitrification facility or ceramic immobilization facility in compliance with all applicable Federal and State regulations and DOE Orders until availability of a mined geological repository. The NWPA enunciated the national policy that HLW be solidified and disposed of in a mined geologic repository.

06 06 08 Comment Number 22

The proliferation risks for transportation between facilities will be considered in selecting sites for pit disassembly, Pu conversion and MOX fuel fabrication. DOE has an impeccable history of monitoring security of special nuclear materials. This level of security would be expected to be retained throughout the disposition mission, including transportation.

06 01 08 Comment Number 23

The commentor is generally correct. However, as stated in the PEIS, the potential exists that MOX fuel may be needed earlier than could be supplied by a domestic MOX fuel fabrication facility.

08 03 01 Comment Number 24

The Department of Energy acknowledges the commentor's concern about the disposition of Pu using the partially completed LWR (commercial). Decisions on the disposition of weapons-usable fissile materials will be based on

17.	meet the As Low As Reasonably Achievable (ALARA) regulatory approach to exposure control.	27/09.09.08 cont.
	Page S-46, Disposition Alternative, second paragraph states "Idaho National Environmental Laboratory, NTS and Hanford would be the least vulnerable to cumulative impacts from the disposition alternatives." We believe Hanford is the most vulnerable to cumulative impacts. The only way USDOE could conclude otherwise would be to assume that the problem is so big and so complex at Hanford and NTS that anything added by doing disposition there would not significantly change the damage. We believe USDOE has a clear obligation to cleanup Hanford and to protect the natural environment.	28/09.00.08
	Page S-48, fifth paragraph. For the upgrade alternative, Hanford would be heavily impacted. FMEF is unacceptable for use due to its proximity to the city of Richland and the Columbia river. The PFP does not meet seismic standards and is decrepit. A new facility adjacent to PFP would destroy shrub-steppe habitat. Any new facility at Hanford would lead to unacceptable additional contamination of lands.	29/01.00.00
18.		1/08.03.01 cont.
<u>Volume I</u>		
The comments as noted for the Summary apply also to the various volumes as appropriate.		
19.	Page 3-22, section 3.2.1, first paragraph states "DOE intends to maintain active institutional control of the site in perpetuity." This is the subject of another EIS and is an open issue. Oregon opposes such control in perpetuity because it does not protect the public health, the environment or Tribal rights. Instead it leaves the problem to future generations to deal with.	30/09.01.01
20.	Page 3-22, section 3.2.1, fourth paragraph states "No prime farmlands exist onsite." Much of the site is potential prime farmland. This is not the highest and best use of the land, but it is able.	31/09.01.01
21.	Page 3-26, last paragraph. The cleanup of PFP is the subject of another EIS. The proposed action here is duplicative of that EIS. The analysis in this EIS is inadequate to guide the cleanup actions at PFP. Also, PFP is not in acceptable condition to handle any waste from any other facility. It is processing its own waste only as a cleanup action.	32/11.00.01
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environmental analyses, technical and economic studies, national policy considerations, and public input. However, should this alternative be selected in the ROD, these reactors would be completed in accordance with current codes and standards with appropriate upgrades to equipment and systems. The analyses of the environmental impacts for completing these reactors and fuel management (fresh MOX fuel and spent fuel) are included in this PEIS.

09 07 01 Comment Number 25

The Department of Energy recognizes that the Tribes consider traditional use areas to include the water, land, plants, and animals on Hanford, and that access to these resources is part of their reserved rights. Potential impacts to these resources are assessed in the cultural resources sections as well as land resources, water resources, geology and soils, and biological resources in Chapter 4 of this PEIS.

09 11 01 Comment Number 26

The conceptual designs for the storage and disposition facilities have, as part of their design, waste management facilities that would treat and package all waste generated into forms that enable long-term storage and/or disposal in accordance with RCRA and other applicable Federal and State statutes and DOE Orders. As noted in Section 4.1.10 of the PEIS, waste management activities that would support the long-term storage or disposition of weapons-usable fissile materials were assumed to be per current site practice. Thus, only LLW and possibly some solid nonhazardous waste was assumed to be disposed of onsite. Any future waste management facilities that may be required to support the long-term storage or disposition of weapons-usable material would be coordinated with any decisions in the waste-type-specific RODs resulting from the Waste Management PEIS and respective site-specific NEPA documentation. Therefore, no impacts are anticipated for Hanford or the Columbia River.

22.	Page 3-31, fifth paragraph. Fisheries is another primary use of the Columbia river. This use is now limiting dam operations, irrigation and potentially may limit river transport.	33/09.04.01
23.	Page 3-31, sixth paragraph. The flooding potential of the Hanford site has been extensively studied based on partial upstream dam failures.	34/09.04.01
24.	Page 3-34. The discussion of groundwater at the Hanford site does not begin to show the massive contamination of groundwater which already exists on the site. This contamination may get much worse over the next ten thousand years depending on "waste management" (sic) decisions. The map on the next page should also show the massive groundwater contamination plumes. Also, the map on page 3-35 does not show that groundwater flow from the northern half of the 200 west area flows northward to the Columbia river.	35/09.04.01
25.	Page 3-37, sixth paragraph. Hanford is in a seismic zone 2B, not seismic zone 2. Also, Uniform Building Code construction requirements require the use of a 1.5 safety factor for extremely hazardous facilities. The seismic risk throughout this region may be greatly understated. There is a band of low seismic activity which runs from Puget Sound to the area of the INEL site. Many surface features on and near the Hanford site coincide with this band of activity. A recent earthquake on a previously unknown blind thrust fault in the Seattle area demonstrates the risk of underestimation. No site in a seismic zone 2, 3 or 4 should be considered for any of the plutonium disposition activities.	36/09.04.01
Volume II		
26.	Page 4-24, third paragraph, land use. The Hanford Site Development Plan is the subject of ongoing site discussions. It has not been agreed to by stakeholders or the regulators. Future land use is constrained by many other documents, the Tri-Party Agreement, Tribal Treaty reserved rights and federal law.	37/09.05.01
27.	Page 4-47 and 4-48. Constructing a new Pu storage facility in or between the 200 areas would have major impacts to shrub-steppe habitat or would occur on highly contaminated soil within the PFP perimeter. Both are unacceptable. Impacts would not be minimal as stated in the EIS. The impacts would lead to direct competition for land with other facilities required to cleanup Hanford. No land is available on the central plateau for such a facility.	38/09.01.01
		1/08.03.01 cont.
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09 09 08 Comment Number 27

Proposed 10 CFR part 834 (see 58 FR 16268) would require an ALARA program and would generally limit the potential annual population dose to 100 person-rem/yr from all pathways combined for DOE activities. The radiation exposure to the public is limited by the maximum individual dose of 100 mrem/yr.

The Federal radiation exposure limit for an individual worker is set forth in the Federal Code (10 CFR 835) 5,000 mrem/yr. This is the basis for limiting the radiation exposure to workers on DOE sites. Furthermore, DOE has also established an administrative exposure level of 2,000 mrem/yr (DOE/EH-0256-T) for the workers. DOE requires all sites to maintain worker radiation exposure levels ALARA preferably below this administrative level.

09 09 08 Comment Number 28

Based on comments received, the language in the cumulative impacts section of the Summary has been revised to better reflect the impact analysis in Section 4.7 of the Final PEIS.

01 00 00 Comment Number 29

Comment noted.

09 01 01 Comment Number 30

The Department of Energy is currently preparing the HRA EIS to evaluate potential land-use scenarios and to select a Preferred Alternative for site cleanup. The CLUP is being prepared in conjunction with the HRA EIS. Together, these documents will identify long-term land use recommendations for Hanford. The identification of land to be transferred from Federal ownership is beyond the scope of the CLUP and HRA EISs.

Reference to DOE maintaining active institutional control of Hanford in perpetuity has been deleted from Section 3.2.1 of the Final PEIS.

28.	Page 4-461 and remainder of this section. The fifth paragraph states "According to the Hanford Site Development Plan, 200 Area's land use identified as waste operations, which includes radioactive material management, processing, and storage (HFP DOE 1993c:13,14). Therefore, direct impacts to land use would be negligible." This land is shrub-steppe habitat which is precious and rare. To state that a plan not approved by the stakeholders or regulators selected the land for waste management, and therefore there is no impact is inappropriate. The remaining shrub-steppe habitat must be protected.	14/09.01.01 cont.
29.	Page 4-525, page 4-569 and page 4-630 reiterate the same errors noted in the previous three comments.	
30.	Page 4-705 indicates that LLW would be shipped to a USDOE site for burial. Hanford is not acceptable for any of this waste. The Hanford site cleanup mission must take first priority. Any inputs of waste from other locations will likely directly conflict with and interfere with the site cleanup mission.	1/08.03.01 cont.
31.	Section 4.4.1, page 4-771. The draft PEIS states that "the health impacts from the transport of materials were estimated using a homogeneous population." Since the analysis is not route specific, the potential impacts cannot be accurately predicted.	39/10.00.00
32.	Section 4.4.2.1, page 4-772. The draft PEIS attempts to downplay the potential impact of the transportation of plutonium by comparing it to the number of hazardous material shipments now on the road. The draft PEIS estimates a maximum of 603 shipments per year of radioactive material would be generated for any alternative in this PEIS. For these types of shipments -- this is a significant increase.	40/10.00.00
33.	Section 4.4.3, page 4-777 and elsewhere. The draft PEIS states that transportation assessment is contained in a classified appendix. How are we to judge the potential impacts if the analysis is not disclosed?	41/10.03.00
34.	Section 4.4.3.3, page 4-781. The draft PEIS says up to 12 BUSS shipments of cesium capsules each year would be needed from Hanford to the immobilization site. Only one BUSS cask exists. If the transport is to occur cross-country, logistics may make one shipment per month impossible.	42/10.00.00
35.	Section 4.4.3.3, page 4-781. The draft PEIS again refers to the classified appendix. It mentions that the potential radiological and non-radiological health effects from transporting Cs-137 from Hanford to each of the immobilization sites analyzed is	43/10.03.00
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09 01 01 Comment Number 31

The U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) of Benton and Franklin Counties does not identify prime farmland at Hanford. However, the NRCS believes that some soil units onsite have the potential to be prime farmland soils if irrigated. Section 3.2.1 of the Final PEIS was revised to reflect this condition.

11 00 01 Comment Number 32

This paragraph describes the existing storage at the PFP. The PFP is not a candidate facility for the storage of weapons-usable fissile materials other than under the No Action Alternative, as described in this PEIS.

09 04 01 Comment Number 33

Section 3.2.4 of the Final PEIS was modified to indicate that fisheries is another primary use of the Columbia River.

09 04 01 Comment Number 34

The issue of partial dam failures is not addressed since all proposed locations for the alternatives analyzed in the PEIS are well above any areas potentially affected by any type of flooding of the Columbia River. The largest magnitude floods are introduced as a potential "worst-case" scenario.

09 04 01 Comment Number 35

The discussion of existing groundwater contamination mentions the various contaminants which have been detected at the site, including the tritium and nitrate plumes in the unconfined aquifer which is sufficient detail for a PEIS. The tritium and nitrate plumes in the unconfined aquifer is added to Figure 3.2.4-2 of the Final PEIS.

contained in this classified appendix. USDOE is not justified to place this information in a classified appendix. Cesium is not a fissile material and this analysis should not be contained in a classified document. Cesium-137 capsules have been transported in considerable numbers in recent years. The most recent shipments were preceded by an Environmental Assessment. That information was not classified.	43/10.03.00 cont.
36. General -- The Draft PEIS makes no mention of working with route states or Native American tribes to coordinate any of the transportation activities. DOE must work with the states and Native American tribes along the routes to ensure that local responders are aware of the shipments and the potential risks they present. It is critical that responders be appropriately trained and equipped to conduct an effective response to an accident involving any of these shipments. The ability of these response agencies to effectively respond to a transport accident directly impacts the potential consequences of an accident and therefore must be considered in the PEIS.	44/08.03.00
Volume III	45/10.01.00
37. Page E-15 fifth paragraph. The SST wastes are scheduled under the Tri-Party Agreement to be retrieved and vitrified in the same manner as the DST wastes. As written, the paragraph might lead a reader to assume the tanks will be closed with the waste in-place in the tanks. Also, tank closure is now excluded from the Tank Waste Remediation System EIS and will be the subject of a separate EIS at a future date. This future EIS will also address leaked tank waste.	46/09.11.01
38. Page E-15, bottom of page states "the low-level fraction will be vitrified for disposal on-site." This is incorrect. The low-level fraction will be vitrified and placed in retrievable storage on-site.	47/09.11.01
39. Page M-7. The cancer risk assumed for radiation exposure relies on BIER V recommendations which is in turn based in large part on the study of the survivors of Hiroshima and Nagasaki. BIER V adjusts the slope factor for low dose exposure downward by an arbitrary factor of two based on a belief that cellular repair mechanisms are more effective at low doses, and that the linear slope factor extrapolated from the existing databases over estimates the actual risk. This has not been demonstrated in controlled studies. Lacking better information, the risk slope factors should be returned to their full values. (e.g. multiply the reported cancer risks throughout the report by a factor of two.) In addition, the factors used do not include multi-generational effects. An additional factor is needed to account for this risk.	48/09.09.08
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09 04 01 Comment Number 36

The purpose of this map is to show the generalized, overall groundwater flow directions across the site. The northward flow component at the 200-West Area is stated in Section 3.2.4 of the PEIS.

09 05 01 Comment Number 37

According to the 1994 Uniform Building Code (UBC), Hanford is in Seismic Zone 2B. However for this PEIS, UBC Seismic Zones 2A and 2B were consolidated into Seismic Zone 2. Seismic Zones 2A and 2B differ only in that Zone 2B has the potential for slightly more damage than Seismic Zone 2A corresponding to an earthquake intensity VII on the Modified Mercalli Intensity (MMI) scale. Based on historical and recent seismic data, the seismic risk in eastern Washington appears to be properly classified as Seismic Zone 2B.

Hanford is located in the Columbia Plateau, a term used informally to designate the area within the Columbia River physiographic province that is covered by the Columbia River Basalt Group. Seismicity of the Columbia Plateau, as determined by the rate of earthquakes per area and the historical magnitude of these events, is relatively low when compared with other regions of the Pacific Northwest, the Puget Sound area, and western Montana/eastern Idaho (areas where several large earthquakes, Richter magnitude greater than 7, have occurred). Between 1870 and 1980, only five earthquakes occurred in the Columbia Plateau region that had MMI of VI or greater, and all these events occurred prior to 1937.

The largest known earthquake in the Columbia Plateau (magnitude 5.75 and maximum MMI of VII) occurred in 1936 around Milton-Freewater, Oregon, approximately 100 km (62 mi) southeast of Hanford. In the central portion of the Columbia Plateau, the largest earthquakes near Hanford occurred in 1918 and 1973. Each had an approximate magnitude of 4.5 and MMI V, and located north of Hanford.

Most of the earthquakes in the central Columbia Plateau occur north or northeast of the Columbia River as "earthquake swarms," which are clusters of low intensity earthquakes (MMI < V) occurring over a short period of time.

40. Page M-22, figure M.2.4-1 shows a source in the 600 Areas on the slopes of Rattlesnake Mountain. Table M.2.4.1-1 on page M-29 indicates this source is currently in existence at this location and is composed of plutonium 239,240 and strontium 90. Senior Hanford site personnel deny any knowledge of such a source on Rattlesnake Mountain. We have no knowledge of a source on Rattlesnake Mountain. What is this source?
49/09.09.01
41. Page M-234, Table M.5.2.1.2-1. The table is clearly in error. It indicates that the dose to a worker at 1,000 meters for a nuclear criticality would be 0.010 rem. This apparently assumes direct radiation exposure only and that a criticality would not lead to a release of radioactive materials from containment. Also, a criticality accident would lead to much greater consequences to nearby workers. The accident frequencies reported in table M.5.2.1.2 deviate greatly from USDOE experience. The fires at Rocky Flats and Los Alamos should be a clear indication that these are frequent and credible events, not incredible events. Similarly, there have been a large number of uncontrolled and unplanned criticalities at USDOE facilities. The consequences are understated and the potential range of complications and human factors are ignored. The accident risk assessments should be reevaluated.
50/09.09.01

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Regarding the comment "No site in a Seismic Zones 2, 3, or 4 should be considered for any of the Pu disposition activities," DOE's decision on surplus Pu disposition includes the impacts of earthquakes in the area as well as the impacts of other resources such as threatened and endangered species, Native American resources, and health effects on workers and the public. All of these impacts, including the seismic zone, will be considered in the decisionmaking process.

09 01 01 Comment Number 38

The *Hanford Site Development Plan* dated May 1993 (DOE/RL-93-19) is Hanford's current land-use planning document. The PEIS analyzes potential impacts to onsite land-use against this document. All storage and disposition alternatives proposed for Hanford would be in conformance with the *Hanford Site Development Plan*; therefore, no impact to land-use would occur. DOE is currently preparing the CLUP in conjunction with the HRA EIS. The CLUP/HRA EIS is being prepared with stakeholder, governmental, and tribal input. Coordination of these documents with the NEPA process will allow DOE to codify the land-use recommendations in a ROD. However, the PEIS references the current *Site Development Plan* (1993) since adoption of the CLUP/HRA EIS will occur beyond the PEIS timeline.

10 00 00 Comment Number 39

The transportation analysis is not route specific, but used a homogeneous population mix along the representative routes between the sites. This homogeneous population mix was 84 percent rural, 15 percent suburban, and 1 percent urban.

10 00 00 Comment Number 40

The human health risks of material transportations associated with the proposed Pu storage and disposition alternatives are evaluated and presented in Section 4.4 of this PEIS. The more detailed description of the methodology and supporting data for the analysis is presented in the Appendix G. Transportation of radioactive materials between sites includes health risks for both normal operations and accident conditions to the public and workers.

STATE OF OREGON, DEPARTMENT OF ENERGY, SALEM, OR,
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Attachment B

Oregon Department of Energy
Discussion of public comments we received on the
Storage and Disposition of Weapons-Usable Fissile Materials
Draft Programmatic Environmental Impact Statement

We met with over eight hundred Oregonians in person in twelve cities. We reached many more by video conference, cable television and mailings. During our public involvement effort with Oregonians, we gained new insights into plutonium disposition problems.

Oregonians were uniformly thoughtful in their discussions with us. They often expressed concerns early in the meetings about knowing or learning enough in a short time to make informed comment on USDOE's plans for fissile materials disposition. Within a short time, the participants in our focus groups and public meetings were comfortably involved in the technical aspects of plutonium disposition. By the end of the meetings, the public expressed gratitude for having access to such an important decision process. The illusion they could not make informed comment was shattered.

Conclusions

This public process was extremely valuable. It gave us insights into the conflicting tradeoffs involved and the public view of these tradeoffs. Oregonians were considerate and passionate in their discussions about the issues. Many of the public comments were in depth technical comments. We found it valuable and important for our technical staff to be directly involved in the discussion. However, we confirmed that technical staff must be able to speak in common language and be able to explain complex ideas in simple terms. This process not only changed our conclusions, it changed the way we think about the problems.

Oregonians came away from the meetings with a deeper understanding of the tradeoffs involved in plutonium disposition. Many were excited to be involved in this way and expressed a desire that we keep them involved. Some used our discussions as a spring board in their own communities to continue the discussions.

Oregonians views:

1. Broad opposition for storage, processing or disposal at Hanford.
2. Broad opposition to any reactor option.
3. Limited support for vitrification.

1/08.03.01
cont.
24/08.03.01
cont.
7/08.03.01
cont.

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10 03 00 Comment Number 41

Specific risks analyses and potential routes for each of these alternatives are contained in the Classified Appendix. The total potential impacts for comparison are given in Section 4.4 and Appendix G for each of the storage and disposition alternatives.

10 00 00 Comment Number 42

Logistical planning is an important facet regarding all potential transportation options pursuant to the alternatives in this PEIS. During the final decisionmaking stage, if it is deemed that 12 BUSS shipments each year are required, then appropriate action will be taken to facilitate this action.

10 03 00 Comment Number 43

The quantity of Cs per package, quantity per year, number of shipments, and other information can be found in Table 4.4.2.2-1 of the Draft PEIS. All risk calculations are contained in the Classified Appendix because some data used for the calculations are classified. However, the total potential fatalities for alternatives requiring the transport of Cs are presented in Section 4.4.3.3 and Table 4.4.3.3-1.

08 03 00 Comment Number 44

Transportation of special nuclear materials would occur through DOE's SST transportation system. This system involves coordination with State and local municipalities along the transportation routes to ensure proper response as required. The actual shipment times and routes vary and are classified for security reasons.

4. Early opposition to borehole disposal, with limited support in the last focus group.	51/08.03.01
These are some of the concerns we heard from Oregonians.	
<u>Themes from the public comments:</u>	
<u>Reactors</u>	
A few people spoke and argued in favor of the reactor options. A greater number argued against any reactor option based on the operational history of reactors worldwide. Many commented that continued operation of civilian nuclear reactors would add to an already huge problem and make it worse. Many made little distinction between civilian and military uses of nuclear power.	24/08.03.01 cont.
Many people raised concerns about the potential for development of a plutonium economy if any reactor option were selected. Most Oregonians viewed this as a security risk for the development of nuclear weapons by other nations.	52/13.00.00
<u>Deep Borehole</u>	
Deep Borehole was opposed by most Oregonians, but did receive some limited support in the discussion phase of the final focus group meeting in Portland.	51/08.03.01 cont.
<u>Vitrification</u>	
Vitrification was generally looked upon positively, but many were concerned about how well it might work. Many people expressed concerns that mixing plutonium with high-level waste was over complicating the process and that it could lead to failure of the glass.	7/08.03.01 cont.
<u>General</u>	
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10 01 00 Comment Number 45

Logistical planning and meteorological surveillance are standard concerns which normally receive a great deal of attention during transportation operations such as this; transfer of materials to Hanford will hold no exceptions. Emergency preparedness personnel (that is, Emergency Response Teams) will be supplied with the necessary equipment and training commensurate with DOT, DOE, and NRC regulations. Sufficient funding for these concerns will be available to satisfactorily ensure that potential contingencies be dealt with in an effective and timely manner. DOE provides liaison with appropriate agencies for special nuclear material shipments; however, due to their classified nature, specific information on times and dates cannot be provided.

09 11 01 Comment Number 46

Text highlighted by the commentator (Section E.2.1) has been expanded to clarify how the wastes in the single-shell tanks are planned to be managed per the *Tri-Party Agreement*, as amended.

09 11 01 Comment Number 47

According to the Draft EIS for the Tank Waste Remediation System (DOE/EIS-0189-D), DOE and the State of Washington, Department of Ecology, have identified a Phased Implementation Alternative as the Preferred Alternative for managing and disposing of tank waste. In this alternative low-activity waste "would be disposed of onsite in near-surface retrievable disposal vaults" covered with a thick earthen barrier following evaporation and vitrification. This is also the strategy reflected in the current *Tri-Party Agreement*. The text referred to by the commentator in Section E.2.1 was revised in the Final PEIS to reflect the use of "retrievable" disposal vaults.

09 09 08 Comment Number 48

The human health effects response to low-level radiation exposure is still disputed in the scientific community. The ICRP and NCRP, two widely respected and accepted scientific organizations, support using the linear-non-threshold approach for estimating human health risks for low-level radiation

The EIS examines the near term issues involved in plutonium disposition, but it does not address longer term issues. In particular, the EIS accepts the proposal by the National Academy of Sciences for reliance on the "spent fuel standard" as the acceptable benchmark for performance. The spent fuel standard is specified as placing the plutonium into a final form that is at least as radioactive as spent nuclear fuel. This is intended to provide a barrier to keep terrorists and even some nations from recovering the plutonium for use in weapons. USDOE estimates that within sixty years of leaving a reactor, spent nuclear fuel no longer meets this standard.

Our citizens questioned the adequacy of the protection provided by the "spent fuel standard" proposed by the National Academy of Sciences. Many felt the plutonium should be more highly protected than this, and that in a separate analysis, spent fuel should also be more highly protected. They were equally concerned that civilian plutonium might be converted to weapons use in other nations. This drove a largely supported position that nuclear power was dangerous because of its future risks to global security.

Most public commenters noted that nuclear power was not foremost in their minds, but in general the public opposed it for a wide variety of reasons. A small minority of technical commenters viewed nuclear in a positive light. Support for any reactor options was very weak, except for the technical commenters.

People in general expressed concerns over the accumulative harm they and their children and grand-children may suffer as a result of the decisions already made, and which may be made as the result of this EIS. They also spoke about concerns over the conditions at other USDOE sites and the need for all sites and people near them to be treated fairly.

A few commenters lamented the exclusion of the space disposal option. Many extolled the folly of the space disposal option.

Many people discussed the problems inherent in handling plutonium metal and the potential for fires.

Many people spoke or expressed concerns about Native American impacts.

17/01.04.00
cont.

53/01.05.00

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exposure. Some suggest that this estimation is too conservative while others believe that radiation effects would be greater at low-level radiation exposures. However, the ICRP and NCRP approach is the most widely used method to estimate the radiation health risk and has long been employed by regulatory agencies in the United States. It is appropriate to use this method in the PEIS.

09 09 01 Comment Number 49

The emissions data related to Hanford were taken from the latest available report, *Hanford Site Environmental Report for Calendar Year 1993*. This data was collected and reported by Hanford personnel.

09 09 01 Comment Number 50

The analysis considers a release of radioactive materials from containment for all of the accidents given in Table M.5.2.1.2-1. The dose to the noninvolved worker is correct. Updated doses, based on the most recent information, are presented in the Final PEIS. As stated on page 4-65 of the Draft PEIS, "Certain accidents such as fires, explosions, and criticality could cause fatalities to workers close to the accident. Prior to construction of a new facility or modification of an existing facility, DOE Orders require detailed safety analyses to assure that facility designs and operating procedures limit the number of workers in hazardous areas and minimize risk of injury or fatality in the event of an accident." Chapter 3, which describes the affected environment, contains a review of accident history as it pertains to health and safety considerations at each of the sites of interest. The incidents occurring previously should not be confused with the beyond evaluation basis accidents in Table M.5.2.1-2. The accident frequencies and corresponding releases in the table are based on "sequences of events and models of effects that have not occurred. Significant changes exist between storage and disposition facilities and the current facilities design criteria and safety standards, which will reduce total risk to the public." (page M-226 of the Draft PEIS).

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Most Oregonians expressed concern that Russia may be unable ability to secure its plutonium. Oregonians believe we should do everything possible to acquire Russian plutonium. Many people expressed concerns about trusting the Russians to carry through with weapons dismantlement and disposal of the plutonium.	54/01.03.00	08 03 01 Comment Number 51 The Department of Energy recognizes the commentor's concern with the Borehole Alternatives. Decisions on the disposition alternatives will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.
A majority of people wanted detailed information about the costs of the various options. Discussions showed that the cheapest option was not the top priority. Instead, Oregonians expressed a desire that the options considered be reasonably weighed between costs and benefits, and that the costs and benefits include non-financial costs and benefits, such as quality of the environment.	8/08.00.00 cont.	13 00 00 Comment Number 52 While the Pu is in the MOX fuel form, it is owned by the U.S. Government and would be subject to high standards of safeguards and security. Consistent with the President's Nonproliferation Policy, the surplus Pu would be inspectable by IAEA, as appropriate.
Uniformly, Oregonians rejected the use of Hanford for any aspect of plutonium disposition, that would delay cleanup, or add waste to the site. The tally of our opinion gathering showed only vitrification to have any significant support, but not at Hanford. Many viewed vitrification with cesium as much more desirable than vitrification with high level waste.	1/08.03.01 cont. 7/08.03.01 cont.	01 05 00 Comment Number 53 Comment noted.
Many people expressed gratitude for having access to this decision process. A few were moved to tears that a government agency would actually discuss such an issue with them in such a forthright manner.	55/08.02.00	01 03 00 Comment Number 54 Comment noted. DOE is encouraging the Russians to pursue timely Pu disposition by offering technical assistance, conducting joint assessments of the various disposition technologies, and planning joint demonstrations of some of the technologies to remove uncertainties in their viability.
Several stated strongly that the scientists should make the decisions. A roughly equal number stated equally strongly that the scientists should not be allowed to make the decisions. Most agreed that politicians should not make the decision.		08 02 00 Comment Number 55 Comment noted.

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JOHN SAVAGE
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The Oregon Approach:

***A Grassroots Method to Achieve
Meaningful Public Involvement***

Final Report



**Oregon Department of Energy
and
Oregon Hanford Waste Board
February 1996**

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MARY LOU BLAZEK
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Oregon

DEPARTMENT OF
ENERGY

April 18, 1996

J. David Nulton
Director, NEPA Compliance & Outreach
Office of Fissile Materials Disposition
U.S. Department of Energy
Forrestal Building, MD-4
1000 Independence Avenue SW
Washington, D.C. 20585

Dear Mr. Nulton:

As promised, enclosed is a list of comments, statements, and concerns that we recorded on the flip charts at the Portland focus group meeting on plutonium disposition. Please take these comments into consideration as the U.S. Department of Energy continues its process to decide the ultimate fate of surplus weapons plutonium.

These comments will be included as an attachment to Oregon's formal comments on the Fissile Materials Draft Environmental Impact Statement.

If you have any questions, please call me at (503) 378-5544.

Sincerely,

Mary Lou Blazek

Mary Lou Blazek, Administrator
Nuclear Safety Division

John A. Kuchner
Governor



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MARY LOU BLAZEK
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Plutonium Disposition Portland Focus Group Comments - April 10, 1996

Concern that the decisions will be politicized. While the EIS process allows for public input – there's concern expressed that other federal agencies such as departments of Defense and State and Congress may influence the decisions made outside of the public forum.	1/08.03.00
Concern about the cost involved – consolidating the plutonium to one location vs. leaving the material at multiple sites.	2/07.02.00
Concern that the transportation of plutonium has not been factored into the costs.	3/07.00.00
Concern that Hanford may have to take surplus plutonium from Rocky Flats since Rocky Flats is not being considered for plutonium disposition activities.	4/01.02.00
Concern that if plutonium from Rocky Flats or some other facility goes to Hanford, Hanford cleanup will be negatively impacted.	5/09.00.08
Concern about the safety measures and security of the material if the plutonium is consolidated to one site.	6/01.00.00
Question whether there was a formula to determine what percentage of material at each site was declared surplus, or whether it was assessed separately at each site.	7/10.00.00
Statement that declaring only 38 percent of the United States's plutonium inventory surplus is not enough.	8/10.00.00
Concern that the draft Environmental Impact Statement fails to address in detail transportation issues like risk analysis, potential routes, and emergency preparedness and response plans in the event of an accident.	9/05.00.08
Concern about the form of the plutonium and the type of container or packaging the material will be transported in.	10/08.02.00
Concern that the technology for immobilization is not yet proven and may not work.	11/08.03.01
Statement that issues of this magnitude, USDOE needs to conduct more than just one meeting in each region.	
Concern that the amount of plutonium destroyed in the reactor option (30 percent) is not worth the amount of high level radioactive waste it creates as a result of running that reactor.	

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08 03 00 Comment Number 1

Comment noted.

07 02 00 Comment Number 2

Cost data, along with technical and schedule data, were provided in Technical Summary Reports of both storage and disposition in late July 1996.

07 00 00 Comment Number 3

Transportation costs were included in the cost evaluations for each storage and disposition alternative in the Technical Summary Reports issued by DOE beginning in late July 1996.

01 02 00 Comment Number 4

Comment noted. DOE acknowledges the concern about the potential effects that the selection of Hanford for new missions could have on the site's clean-up program. Decisions on storage and disposition of weapons-usable fissile materials will be based on environmental analyses, technical and economic studies, national policy considerations, and public input. The decision process will also give consideration to existing agreements between DOE, the State of Washington, and the EPA.

09 00 08 Comment Number 5

Potential impacts and risk to public and occupational health and safety from Pu consolidation are described in Chapter 4 of the Draft PEIS (Sections 4.2.1.9 and 4.2.2.9 to 4.2.6.9). Intersite transportation risks are presented in Section 4.4.3.2. The Pu Consolidation Alternative is considered a reasonable alternative since, during the screening process, it was rated high in resistance to theft or diversions to reflect the advantages in reducing the number of sites involved. The Pu Consolidation Alternative is also high in technical viability due to consolidation in a state-of-the-art storage facility where there would be little doubt that the facility would remain viable for the potential duration of long-term storage.

Concern that fabricating MOX fuel would still be more costly than uranium fuel.	12/08.03.01
Concern that Canadian reactors (CANDU) wouldn't burn MOX fuel any more effectively than U.S. reactors.	13/08.03.01
Concern that if a MOX fabrication facility is used, the facility could become privatized and create a commercial market for plutonium fuel.	14/01.00.00
Concern about the capacity of Yucca Mountain to store spent fuel generated from the reactor option.	15/12.00.00
Statement that since we already have problems with disposing of current high-level waste, we should oppose any option that would generate more high-level waste.	11/08.03.01 cont.
Concern that MOX fuel fabrication would create new waste streams.	16/06.01.09
Concern that using existing reactors would extend the operating life beyond the time these reactors could run safely.	17/06.00.09
Statement that the reactor alternative is totally unacceptable, because how the U.S. deals with surplus plutonium sets a standard for the rest of the world. The U.S. needs to declare this plutonium waste and not find a use for it.	18/01.00.00
Concern that the U.S. has the same problem as the Russians in that we continue to call the plutonium an asset, not waste.	
Questions about the status of Canada's, France's, and Sweden's repository programs.	19/11.00.08
Concern about the possibility of a nuclear reaction or catastrophe with the borehole option.	20/09.09.08
Concern about borehole disposal in a region with volcanic activity.	21/09.05.08
Statement that the borehole option is a proven technology and the plutonium would be disposed of permanently.	22/08.03.01
Statement about the difficulty of predicting impacts far into the future.	23/01.00.00
Statement that public information efforts have not been adequate.	24/08.02.00
Concern that there is no financial table that compares all the costs of the different options included in this EIS. Concern that this draft cost report will not include long term costs into the next several hundreds of years.	25/07.02.00
Concern that USDOE's many EIS's are not all integrated.	26/01.00.00
	M-219

01 00 00 Comment Number 6

The declaration of surplus weapons-usable fissile materials is made by the President in response to recommendations from the Nuclear Weapons Council, composed of representatives from DOE, DoD, and the Joint Chiefs of Staff.

10 00 00 Comment Number 7

The human health risks of radioactive material transportations associated with the Proposed Pu storage and disposition alternatives are evaluated and presented in Section 4.4 of this PEIS. The categories of calculated risk include nonradiological accident impacts to the public and workers, nonradiological normal operation impacts to the public (air pollution), radiological accidents to the public, and radiological normal operation impacts to the public and workers. Specific risks analyses and potential routes for each of these alternatives are contained in the Classified Appendix. A description of the emergency response for each of the sites is included in Chapter 3 of the PEIS.

10 00 00 Comment Number 8

Transportation of materials will be performed as required by all Federal, State, and local regulations. Packaging will meet all applicable DOT and NRC requirements.

05 00 08 Comment Number 9

The immobilization technology was considered viable to the point that it was considered an alternative. DOE is currently in the process of demonstrating a number of these immobilization technologies at various sites.

08 02 00 Comment Number 10

To obtain public comments on the Draft PEIS, DOE held meetings near each of the potentially affected sites and a national meeting in Washington, DC. DOE also participated in meetings, open to the public, sponsored by different organizations at which the sponsor collected public comments which were

Concern that USDOE does not currently have the technological capability of doing MOX fuel.

Concern that certain sites are implied by the selection of certain options and that these are not clearly explained in the EIS.

Concern that options like reactor or immobilization would implicate Hanford where as other options like deep borehole may not.

27/06.01.08

28/01.04.00

29/01.02.00

forwarded to DOE. DOE created and advertised a number of methods for submitting comments for members of the public who could not attend a public meeting. These methods included fax, oral comments using a toll-free telephone number, mail, and the Internet.

08 03 01

Comment Number 11

The Department of Energy acknowledges the commentor's opposition to the Reactor Alternatives. However, NEPA requires that DOE look at all reasonable alternatives and, therefore, reactor burning must be considered. Decisions on the disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

08 03 01

Comment Number 12

The Department of Energy acknowledges the commentor's opposition to the Reactor Alternative using MOX fuel. Decisions on disposition of weapons-usable fissile materials will be made based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

08 03 01

Comment Number 13

The Department of Energy acknowledges the commentor's opposition to the use of the CANDU Reactor Alternative for the disposition of Pu. Decisions on disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input. This will include an appropriate level of analysis by Canada before any decision on burning Pu in a CANDU is implemented.

01 00 00

Comment Number 14

The Department of Energy is the owner of the MOX fuel containing surplus weapons Pu and would not create a commercial market for its use.

M-219

12 00 00 Comment Number 15

The PEIS does not assume the use of Yucca Mountain as a HLW repository for disposal of MOX spent nuclear fuel and/or immobilized materials. However, since Congress directed Yucca Mountain to be the only site considered for evaluation (site characterization) for the disposition of commercial spent nuclear fuel and HLW, data developed to date at this site have been used to evaluate the potential for disposing of Pu wastes.

06 01 09 Comment Number 16

The environmental impact of the MOX fuel waste streams is presented in Chapter 4 and Appendix H of this PEIS.

06 00 09 Comment Number 17

In relation to the existing reactors, all reactors are, and will continue to be, in compliance with all applicable NRC regulations. It is the position of DOE that the licenses for reactors not be extended solely for the Pu disposition mission. However, if the reactor owner chooses to seek plant life extension for his reactor, he may pursue this action under regulations promulgated by the NRC, irrespective of the Pu disposition mission.

01 00 00 Comment Number 18

In accordance with NEPA, the PEIS evaluates a range of reasonable alternatives for the disposition of weapons-usable Pu. The use of Pu in nuclear reactors as MOX fuel is a reasonable alternative under NEPA, and is therefore, considered in the PEIS.

11 00 08 Comment Number 19

Comment noted.

09 09 08 Comment Number 20

The human health impacts from potential accidents are presented in this PEIS for all of the proposed facilities including the facilities in the Borehole Option. For each of the anticipated accidents, the impacts analyzed include the cancer risk to workers and the MEI, as well as the potential cancer fatalities for the regional population up to 80 km (50 mi). The anticipated accidents analyzed cover a wide spectrum of the potential accidents including those that have large consequences but low probability, such as criticality accident (a nuclear reaction) and earthquake (catastrophe). The anticipated accidents include an analysis of the initiating events, materials at risk, source terms, probabilities, and consequences.

09 05 08 Comment Number 21

The deep borehole complex is not defined for a specific or representative site. Therefore, a limited assessment of the environmental impacts was done for the geological resources and other resources. Should either of the Deep Borehole Alternatives be selected, a siting study would be conducted in coordination with a site-specific discussion of environmental (including geological) conditions and impacts. The identification and acceptance of a site location would require extensive site characterization to ensure that the primary objective of the deep borehole complex, hydrologic isolation from the biosphere, would be met.

08 03 01 Comment Number 22

The Department of Energy acknowledges the commentor's support for the Borehole Alternatives. Decision on disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

01 00 00 Comment Number 23

The Department of Energy agrees that there are uncertainties in the long-term. Every effort is being made to assess environmental impacts in the foreseeable future and decisions will be based on the best available

information. Implementation of decisions will be carried out consistently with applicable environmental safety and health, security, and environmental standards and requirements. Changes to storage and disposition activities will be made, as required, to ensure that these requirements and the overall mission of DOE is being met.

08 02 00 Comment Number 24

Comment noted.

07 02 00 Comment Number 25

Cost data, along with technical and schedule data, was provided in Technical Summary Reports of both storage and disposition in late July 1996. Cost data for the next hundreds of years would be highly speculative and is beyond the scope of this program.

01 00 00 Comment Number 26

The relationship of the Storage and Disposition PEIS with other EISs is described in Chapter 1 of the PEIS. Furthermore, DOE has an ongoing effort in program integration, including the internal review and concurrence of NEPA documents by all public organizations.

06 01 08 Comment Number 27

Fabrication and use of MOX fuel using reactor-grade Pu is a mature, industrial scale technology in Europe with at least three vendors actively fabricating MOX fuel. There are some differences introduced by the use of weapons-grade Pu, which DOE is addressing as part of an ongoing weapons-grade MOX fuel development program.

01 04 00 Comment Number 28

Some of the storage and disposition alternatives addressed in the PEIS involve existing facilities at DOE sites. To the extent that these alternatives and sites are included in the ROD, they will involve the use of an existing site

STATE OF OREGON, DEPARTMENT OF ENERGY, SALEM, OR,
MARY LOU BLAZEK
PAGE 8 OF 8

if the ROD includes the use of commercial reactors. However, in cases where new facility construction is required for either storage or disposition, the PEIS analyses and results are not intended to imply a preference for any particular site.

01 02 00 **Comment Number 29**

Comment noted.

South Carolina
Department of Parks, Recreation & Tourism
Engineering and Planning Office

May 6, 1996

Mr. J. David Nulton
Director, NEPA Compliance & Outreach
Office of Public Materials Disposition
United States Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585

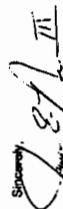
Re: DOE/IS-0228-D
Storage and Disposition of Weapons-Usable Fissile Materials
Draft Programmatic Environmental Impact Statement

Dear Mr. Nulton:

We have briefly reviewed the above referenced subject and offer the following comments for consideration:

1. The Final Programmatic Environmental Impact Statement should include a cost/benefit analysis of the various alternatives. All revenues, processing expenses, research & development costs and design construction costs from activities should be included for each alternative in terms of present value.
2. The preferred alternative should weigh the costs of the alternatives with the associated risks of latent cancer fatalities and environmental impacts.
3. The design life of repositories (permanent storage) should be consistent with the radioactive emission life of the waste placed in the repository.
4. Radioactive and hazardous waste that will not be used in the foreseeable future should be placed in repositories for permanent disposition.

The South Carolina Department of Parks, Recreation and Tourism appreciates the opportunity to comment on this project and any other projects that could possibly affect tourism and existing and/or planned recreational facilities. Please call me at 734-0482 should you have any questions about these comments.

Sincerely,

James E. Newman, III
State Parks Engineer

cc: Beth McClure David Simms Amy Duffy
Marion Edmonds Charles Harrison Bob Loring
Rodney Grizzle (Office of the Governor-Grant Services)

1205 Piedmont Street - Columbia, South Carolina 29201, USA (803) 734-0122, FAX (803) 734-1042

M-237

08 00 00 Comment Number 1

In the interest of openness and more informed decisionmaking, DOE released Technical Summary Reports to the public as soon as they became available. Cost data, along with technical and schedule data, was provided in Technical Summary Reports of both storage and disposition in the summer of 1996. Results of the nonproliferation analysis were made available in the fall of 1996. Each of these analyses, along with the environmental analysis and public input, will be integrated into DOE's decisionmaking process.

08 03 00 Comment Number 2

The financial cost of implementing all alternatives, for storage and disposition, have been included in separate Technical Summary Reports that were made available to the public in late July 1996. The environmental impacts of each of the alternatives have been analyzed in the PEIS.

12 00 00 Comment Number 3

Comment noted.

STATE OF SOUTH CAROLINA, OFFICE OF THE GOVERNOR,
COLUMBIA, SC, RODNEY P. GRIZZLE
PAGE 1 OF 5



State of South Carolina
Office of the Governor

Donald B. Beyer
Governor

April 12, 1996

Order of Executive
Policy and Procedure

Mr. J. David Nulton
Director, NEPA Compliance & Outreach
Office of Fissile Materials Disposition
U. S. Department Energy, SW
1000 Independence Ave., SW
Washington, D.C. 20585

Project Name: Storage and Disposition of Weapons-Usable Fissile Materials Draft
Programmatic Environmental Impact Statement DOE/EIS-0229-D

Project Number: EIS-960309-009

Dear Mr. Nulton,

The Grant Services Unit, Office of the Governor, has conducted an intergovernmental review on the above referenced activity as provided by Presidential Executive Order 12372. All comments received as a result of the review are enclosed for your use.

The State Application Identifier number indicated above should be used in any future correspondence with this office. If you have any questions call me at (803) 734-0485.

Sincerely,

Rodney P. Grizzle
Grant Services Supervisor

M-243

STATE OF SOUTH CAROLINA, OFFICE OF THE GOVERNOR,
COLUMBIA, SC, RODNEY P. GRIZZLE
PAGE 2 OF 5



Office of the Governor*Grant Services
South Carolina Project Notification and Review

1205 Pendleton Street
Room 477
Columbia, SC 29201

State Application Identifier
EIS-960309-009

Suspense Date
4/14/96

James Hugh Ryan
S. C. Forestry Commission

MAR 22 1996

The Grant Services Unit, Office of the Governor is authorized to operate the South Carolina Project Notification and Review System (SCPQRS). Through the system, appropriate state and local officials are given the opportunity to review, comment, and be involved in efforts to obtain and use federal assistance, and to assess the relationship of proposals to their plans and programs.

Please review the attached information, mindful of the impact it may have on your agency's goals and objectives. Document the results of your review in the space provided. Return your response to us by the suspense date indicated above. Your comments will be reviewed and utilized in making the official state recommendation concerning the project. The recommendation will be forwarded to the cognizant federal agency.

If you have no comment, please return the form signed and dated.

If you have any questions, call me at (803) 734-0495.

☐ Project is consistent with our goals and objectives.

☐ Request a conference to discuss comments.

☐ Please discontinue sending projects with this CFDA# to our office for review.

☐ Comments on proposed Application is as follows:

No Comment

Signature: <i>J. M. Chubb</i>	Date: 3-27-96
Title: <i>Director Administration</i>	Phone: 803-886-8860

M-243

STATE OF SOUTH CAROLINA, OFFICE OF THE GOVERNOR,
COLUMBIA, SC, RODNEY P. GRIZZLE
PAGE 3 OF 5



Office of the Governor • Grant Services
South Carolina Project Notification and Review
1205 Pendleton Street
Room 477
Columbia, SC 29201

State Application Identifier EIS-960309-009
Suspense Date 4/14/96

Charles Kerakes
S.C. Jobs-Economic Development Authority

The Grant Services Unit, Office of the Governor is authorized to operate the South Carolina Project Notification and Review System (SCPQRS). Through the system, appropriate state and local officials are given the opportunity to review, comment, and be involved in efforts to obtain and use federal assistance, and to assess the relationship of proposals to their plans and programs.

Please review the attached information, mindful of the impact it may have on your agency's goals and objectives. Document the results of your review in the space provided. Return your response to us by the suspense date indicated above. Your comments will be reviewed and utilized in making the official state recommendation concerning the project. The recommendation will be forwarded to the cognizant federal agency.

If you have no comment, please return the form signed **RODNEY GRIZZLE** to me at (803) 734-0495.

☐ Project is consistent with our goals and objectives.

☐ Request a conference to discuss comments.

☒ Please discontinue sending projects with this CFDA# to our office for review.

☐ Comments on proposed Application is as follows:

Signature: <u>Charles Kerakes</u>	Date: <u>3/25/96</u>
Executive Vice President and Title: Chief Operating Officer	Phone: _____

M-243

STATE OF SOUTH CAROLINA, OFFICE OF THE GOVERNOR,
COLUMBIA, SC, RODNEY P. GRIZZLE
PAGE 4 OF 5



Office of the Governor*Grant Services
South Carolina Project Notification and Review
1205 Pendleton Street
Room 477
Columbia, SC 29201

State Application Identifier EIS-960309-009
Suspense Date 4/14/96

Bruce E. Rippeteau
South Carolina Archaeologist

The Grant Services Unit, Office of the Governor is authorized to operate the South Carolina Project Notification and Review System (SCPQRS). Through the system appropriate state and local officials are given the opportunity to review, comment, and be involved in efforts to obtain and use federal assistance, and to assess the relationship of proposals to their plans and programs.

Please review the attached information, mindful of the impact it may have on your agency's goals and objectives. Document the results of your review in the space provided. Return your response to us by the suspense date indicated above. Your comments will be reviewed and utilized in making the official state recommendation regarding the project. The recommendation will be forwarded to the cognizant federal agency.

If you have no comment, please return the form signed and dated.
If you have any questions, call me at (803) 734-0495.

☐ Project is consistent with our goals and objectives.

☐ Request a conference to discuss comments.

☐ Please discontinue sending projects with this CFDA# to our office for review.

☐ Comments on proposed Application is as follows:

Signature: <u>Jared Spaul</u>	Date: <u>3/26/96</u>
Title: <u>Under Secretary of Development</u>	Phone: <u>803-777-8170</u>

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STATE OF SOUTH CAROLINA, OFFICE OF THE GOVERNOR,
COLUMBIA, SC, RODNEY P. GRIZZLE
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Office of the Governor • Grant Services
South Carolina Project Notification and Review
1205 Pendleton Street
Room 477
Columbia, SC 29201

State Application Identifier EIS-960309-009
Suspense Date 4/14/96

Robert E. David
South Carolina Employment Security Commission

The Grant Services Unit, Office of the Governor is authorized to operate the South Carolina Project Notification and Review System (SCPQRS). Through the system, appropriate state and local officials are given the opportunity to review, comment, and be involved in efforts to obtain and use federal assistance, and to assess the relationship of proposals to their plans and programs.

Please review the attached information, mindful of the impact it may have on your agency's goals and objectives. Document the results of your review in the space provided. Return your response to us by the suspense date indicated above. Your comments will be reviewed and utilized in making the official state recommendation concerning the project. The recommendation will be forwarded to the cognizant federal agency.

If you have no comment, please return the form signed and dated. If you have any questions, call me at (803) 734-0495.

☒ Project is consistent with our goals and objectives. **RECEIVED**
Rodney Grizzle, 5/19/96

☐ Request a conference to discuss comments.

☐ Please discontinue sending projects with this CFDA# to our office for review.

☐ Comments on proposed Application is as follows:

1/08.00.00

Comment Number 1

08 00 00

Comment noted.

Signature: Robert E. David Date: April 12, 1996
Title: Executive Director Phone: (803) 737-7617

M-243

STATE OF TENNESSEE, DEPARTMENT OF ENVIRONMENT
AND CONSERVATION, OAK RIDGE, TN, JUSTIN WILSON
PAGE 1 OF 8



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

May 6, 1998

US Department of Energy
Office of Fissile Materials Disposition
PO Box 23788
Washington, D.C. 20028-3788

To Whom It May Concern:

As the Governor's Lead Contact for National Environmental Policy Act (NEPA) state reviews, I am responding on behalf of the State of Tennessee to the *Draft Programmatic Environmental Impact Statement (DPEIS) for Storage and Disposition of Weapons-Usable Fissile Materials*; No. DOE/EIS-0229-D, February 1996. Enclosed are comments from the TN DOE Oversight Division that now serve as state policy concerning the alternatives addressed in the above referenced PEIS.

Long standing policy dictates that the State of Tennessee does not support large scale waste storage facilities such as described in the "Consolidation of Pu" and "Collocation of Pu and HEU" alternatives. Attached is a letter from Governor Don Sundquist articulating this policy as it relates to similar concerns addressed in Draft PEIS for Waste Management. Given the connectivity of the "PEIS for Storage and Disposition ..." and the "Draft PEIS for Waste Management", we expect the enclosed comments to be addressed in both documents.

Additional comments concerning other alternatives addressed in the "PEIS for Storage and Disposition ..." are enclosed. If you have any questions please contact our NEPA staff coordinator at (615) 532-8545. Your consideration of our interests is greatly appreciated.

Sincerely,

Justin Wilson
Commissioner

Enclosures

c: Ken Bunting, Administrator (for WKS)
Earl Leming, DOE-Oversight
Dodd Galbreath (NEPA coordination file)
Jim Hall, Manager, DOE ORR

LET:JW1 DOC
6/6/98

M-177

1/01.01.00

01 01 00 Comment Number 1

The Department of Energy notes the commentor's opposition to the Consolidation and Collocation Alternative at ORR. Although the surplus and non surplus weapons-usable fissile materials that would not be stored under these alternatives are not wastes. DOE considered the alternative, because, under NEPA, all the alternatives must be analyzed. DOE will base its storage decision on public comments, environmental analyses, cost analyses, nonproliferation analyses, and policy considerations.

STATE OF TENNESSEE, DEPARTMENT OF ENVIRONMENT
AND CONSERVATION, OAK RIDGE, TN, JUSTIN WILSON
PAGE 2 OF 8



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DOE OVERSIGHT DIVISION
701 EMORY VALLEY ROAD
OAK RIDGE, TENNESSEE 37830-7072

April 25, 1996

Mr. Justin Wilson, Commissioner
Tennessee Department of Environment and Conservation
c/o Tennessee Environmental Policy Office
14th Floor L&C Tower
401 Church Street
Nashville, Tennessee 37243 - 1553

Dear Commissioner Wilson

**Document NEPA Review -- Draft Programmatic Environmental Impact Statement:
Storage and Disposition of Weapons-Usable Fissile Materials, DOE/EIS-0229-D, February
1996**

The Tennessee Department of Environment and Conservation, DOE Oversight Division has
reviewed the above document for your concurrence and transmittal to the following DOE office:

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

The Division's review was conducted in accordance with the requirements of the National
Environmental Policy Act (NEPA) and associative implementing regulations 40 CFR 1500 - 1508
and 10 CFR 1021.

The State has agreed to a maximum interim storage of 500 metric tons of HEU and 6 metric tons
of low enriched uranium (LEU), as listed in the FONSI for "Proposed Interim Storage of
Enriched Uranium Above the Maximum Historical Level at the Y-12 Plant." Accordingly, the
Division supports the storage alternative of "Upgrade at Multiple Sites," continuing to store
highly enriched uranium (HEU) at the Y-12 facility.

2/08.03.01

M-177

08 03 01 Comment Number 2

The Department of Energy acknowledges the commentor's support for new
missions at the ORR. Decisions on storage and disposition of weapons-usable
fissile materials will be based on environmental analyses, technical and
economic studies, national policy considerations, and public input.

STATE OF TENNESSEE, DEPARTMENT OF ENVIRONMENT
AND CONSERVATION, OAK RIDGE, TN, JUSTIN WILSON
PAGE 3 OF 8

Justin Wilson, Commissioner
April 25, 1996
Page Two

The data provided in Attachment A, page S-117 "Summary Comparison of Environmental Impacts for the No Action and Long-Term Storage Alternatives" for "Collocation of Pu (plutonium) with HEU Storage Facilities Upgrade and/or New Facility" indicates that the Oak Ridge Reservation would have the highest "population cancer fatalities" among the six sites considered for this alternative. The siting of large scale Pu storage facilities along with HEU storage at the Oak Ridge Reservation would result in a greater exposure risk to the off-site populations. For these and other reasons mentioned in the attached comments, the Division does not support the "Consolidation of Pu" at the Oak Ridge Reservation, which would create a collocation condition with HEU. In addition, the Division does not support the "Collocation of Pu and HEU" alternative at the Oak Ridge Reservation.

The Division supports the Mixed Oxide Fuel (MOX fuel) disposition alternative. It makes no economic sense to vitrify or place the material mixed with highly radioactive waste into deep bore holes, rendering the material in retrievable or useless. The European community uses MOX fuel in their commercial reactors and there are commercial nuclear utilities here in the United States interested in obtaining the plutonium for this purpose.

The Division is concerned with the overburden of numerous NEPA documents released for review at one time on local stakeholders. Within the window for review and comment on this document, the Division also has reviewed five other NEPA documents.

Also, we request the attached comments on the above document be given full consideration in the preparation of the Final Programmatic Environmental Impact Statement for Storage and Disposition of Weapons-Usable Fissile Materials.

If you have any questions, please contact Dale Rector at (423) 481-0993 or Steve Nisley at (423) 481-0163.

Sincerely


Earl Leming, Director

Attachment

cl219.99

M-177

08 03 01 Comment Number 3

The Department of Energy acknowledges the commentor's opposition to the Collocation Alternative. Decisions on storage of fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

08 03 01 Comment Number 4

The Department of Energy acknowledges the commentor's support for the Reactor Alternative using MOX fuel. Decisions on disposition of weapons-usable fissile materials will be based on environmental analyses, technical and economic studies, national policy considerations, and public input.

08 01 00 Comment Number 5

Comment noted.

Tennessee Department of Environment and Conservation/DOE Oversight Division Comments on Draft Programmatic Environmental Impact Statement, DOE/EIS-0229-D, February 1996, Storage and Disposition of Weapons-Usable Fissile Materials		
GENERAL COMMENTS During the public meeting, a DOE representative made a statement that new construction for some of the facilities needed would be done on "greenfields." Existing facilities on "brownfields" must be considered before DOE contaminates any new sites. DOE has demonstrated the cleanup process ranges from slow to nonexistent in dealing with legacy waste sites. Absolutely no greenfield should be considered for any project until brownfields are fully utilized. During the same public meeting, stakeholders were concerned with the amount of information presented for both the Weapons Usable Fissile Material and the Stockpile Stewardship Management projects. The DOE representative stated that each alternative site has no more than a hundred or so pages to review and the stakeholders should only be concerned with their specific site. If stakeholders are to gain a clear view to make rational decisions, the entire document should be reviewed. These two projects are directly linked to several other projects and the review time limit is not adequate for either. Throughout the Weapons-Usable Fissile Materials document, several references have been made to the Draft Waste Management Programmatic Environmental Impact Statement (PEIS), issued in September 1995. The Waste Management PEIS document is controversial because of the inaccuracies and it is doubtful the final document will be completed as expected later in 1996. References in the Weapons-Usable Fissile Material PEIS weigh heavily on information based on the draft Waste Management PEIS. Until the problems with the Waste Management PEIS are resolved, applicable information cannot be accepted as presented in the Fissile Material PEIS. Several references have also been made to the surplus and non surplus Highly Enriched Uranium (HEU) materials located at ORR. It should be clearly stated in the final PEIS that there is a maximum limit of 500 metric tons of HEU and six metric tons of Low Enriched Uranium (LEU) for interim storage as described in the FONSI for the proposed storage of enriched uranium above the maximum historical storage level at the Y-12 Plant. DOE has already committed to the upgrade of HEU storage facilities under other documents. These costs should not be included in the analysis for Weapons Usable Fissile Materials unless those buildings, such as Building 9995, are a first time consideration.		6/01.04.00
		7/08.01.00
		8/11.01.08
		9/11.01.05
		10/11.00.08
		M-177

01 04 00 Comment Number 6

The Department of Energy recognizes the need to utilize as much of its existing infrastructure as possible in dealing with materials storage and disposition. In this regard, the greenfield sites discussed in the PEIS include both existing DOE sites and new non-DOE sites (for a limited number of alternatives). Accordingly, the PEIS evaluates six DOE sites for storage and disposition. Under NEPA, DOE must consider all reasonable alternatives that include greenfield sites.

08 01 00 Comment Number 7

At the request of several organizations and individuals, the public comment period was extended to a total of 92 days.

11 01 08 Comment Number 8

As discussed in Chapter 1 of the PEIS, the waste volumes generated as a result of the long-term storage alternatives are not expected to raise significant waste management concerns. However, on a site-by-site basis, the selection of certain Pu disposition technologies may produce waste streams that could be difficult to manage at certain sites. Should any chosen alternatives result in waste generation not addressed in the Waste Management PEIS, DOE would prepare supplemental or project-specific NEPA documents tiered from the Waste Management PEIS.

11 01 05 Comment Number 9

Comment noted. Section 1.4 of the Final PEIS has been modified to include the maximum limit of 506 t (556.6 tons) of enriched uranium.

11 00 08 Comment Number 10

The upgrades referenced in the comment are not to support the alternative for the PEIS. As noted, these costs would not be included for storage alternatives.

This document appears to be leaning towards borcholt technology for storage/disposal as the preferred alternative. The borcholt technology is not proven and will cost billions of dollars to properly site and place the canisters of plutonium. Also, as with the Waste Isolation Pilot Plant (WIPP) and the Nevada Test Site (NTS), the chosen site may not be ready for intended action for a long time to come. This is because groundwater will have to be monitored extensively prior to any emplacement to ensure background levels of radioactivity. In the 1970s, borcholt technology was studied and discarded by DOE as a project with unattainable goals.	11/04.04.00
Plutonium in its weapons-usable fissile form has a high cost factor associated with it. It should not be considered for immobilization alternatives and rendered practically useless or too expensive to be liberated at a later point. The material should be retrievably stored so it could be accessible in the event of an energy shortage, whether for power generation or weapons production. In this regard, part of it could be converted into for reactor fuel for sale.	12/08.03.01
SPECIFIC COMMENTS	
1. <u>Volume I, Section 2.1.2 "Screening Evaluation Process," Page 2-1</u> The screening committee evaluated each option against "fatal flaws" in one or more of the screening criteria. The inability to meet standards, such as the Spent Fuel Standard, disqualified an option. These options ultimately will depend upon the disposal criteria in the unapproved Waste Management PEIS. Provide information showing why the use of an unapproved document as a basis for disposal is not considered a "fatal flaw."	13/01.05.00
2. <u>Volume I, Section 2.1.4 Reasonable Alternatives for the Disposition of Surplus Plutonium, Page 2-8</u> Please define the term "representative site" as used in the Electrometallurgical Treatment Alternative.	14/05.03.08
3. <u>Volume I, Oak Ridge Reservation, Page 2-49</u> "Under the Upgrade Alternative, non-surplus HEU would be retained in long-term storage." Facilities on the ORR have been evaluated for interim storage. Please provide information on the evaluation process used for buildings slated for long-term storage. As stated in the environmental assessment for Y-12 (interim storage of enriched uranium above historical levels), several buildings did not meet DOE orders for interim HEU storage. Provide information for those buildings under the Weapons-Usable Fissile Materials draft PEIS that do not meet DOE orders for long-term storage of HEU.	15/02.00.05
4. <u>Volume I, Figure 2.3.1-9, Page 2-52</u> Provide information on Building 9995 considered for HHU storage upgrade. This building was not listed for HEU interim storage in Y-12's previous environmental assessments.	

M-177

04 04 00 Comment Number 11

Comment noted.

08 03 01 Comment Number 12

The Department of Energy acknowledges the commentor's opposition to the Immobilization Alternatives. Decisions on disposition alternatives will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

01 05 00 Comment Number 13

All of the alternatives evaluated in the PEIS have associated waste forms and quantities identified. These wastes are being coordinated with DOE's Waste Management Program and will be included in the total waste volumes identified in the Final Waste Management PEIS. A ROD on the Waste Management PEIS is expected before any low-level, TRU, and mixed wastes will be produced from Pu disposition alternatives.

The Waste Management PEIS ROD will not decide "disposition criteria" for spent fuel or HLW; this will be part of the HLW program and will be included in the associated environmental analysis pursuant to the NWPA.

05 03 08 Comment Number 14

The term "representative site" refers to a site analyzed as an example of how a technology might be deployed at an existing site.

02 00 05 Comment Number 15

The Y-12 EA states that there are "eight facilities at the Y-12 Plant currently used to store enriched uranium or process it for storage. These facilities would be used for interim storage of enriched uranium above the historical maximum storage level." These eight buildings include 9204-2, 9204-2E, 9204-4, 9206, 9212, 9215, 9720-5, and 9998. The PEIS includes long-term storage of HEU material after the interim storage of materials consistent with

5. Volume I, 3.6 Oak Ridge Reservation, Page 3-185 It should be clearly stated that the buildings slated for interim storage of HEU did not meet DOE orders and require upgrade. It should also be clearly stated that there is a maximum interim storage capacity of 500 metric tons of HEU and six metric tons of LEU.	16/11.01.05
6. Volume I, 3.6 Oak Ridge Reservation, Page 3-185 "These returned materials and components, as well as those currently located at Y-12, are safely and securely placed in short-term or long-term storage." Assuming the materials and components are made from HEU, the State of Tennessee has not agreed to host long-term storage of weapons grade fissile material. The State agreed to interim storage of 500 metric tons of HEU and six metric tons of LEU. Provide information on the decisions made for material currently in long-term storage, including the amount of material (kg), its form, and the storage buildings.	17/01.06.00
7. Volume I, 3.6.2 Site Infrastructure, Page 3-190 The facilities at Y-12 should clearly state which buildings do not meet DOE orders for storage, as well as the costs involved in the upgrade.	16/11.01.05 cont. 18/07.00.00
8. Volume II, 4.2.5.10 Waste Management, Page 4-273 Information presented on the High-Flux Isotope Reactor (HFIR) is erroneous. Utilizing the current spent fuel storage racks, the facility is now at full capacity for storage-not 40%. The total reackling project will increase the capacity of the spent fuel storage pool to 140 fuel elements. This will allow HFIR operation until the year 2004 to 2006. Please incorporate the correct information into the final PEIS.	19/09.11.05

M-177

the Y-12 EA. The Upgrade at Multiple Sites Alternative utilizes the long-term storage of HEU in some of these buildings. By then, the Y-12 storage facilities will have undergone the capital improvements required to ensure that all long-term HEU storage criteria are met. Existing facilities of the Y-12 Plant that will be used for the long-term HEU storage mission include 9204-2, 9204-2E, 9212, 9215, and 9998. Once ongoing expansions to Y-12 HEU storage areas have been completed, these five facilities will provide more drum storage capacity than the long-term storage mission will require. Other Y-12 facilities that currently store HEU are not planned for use in the long-term storage mission under the Upgrade Alternative. The storage of HEU remaining under IAEA safeguards will be in Building 9270-5 to provide safe and secure storage of HEU requiring international inspection. HEU chemical and isotopic analyses will be performed in the Plant Laboratory in Building 9995. Building 9995 will not be used for long-term storage of HEU (under any of the alternatives), but as a support facility for the mission.

A summary of the structural analyses, including Building 9995, is contained in Appendix G of the Y-12 EA. Building Complex 9212 consists of four different buildings, one of which is Building 9995. The description of the structural analysis needed for Building 9995 is contained under the Building 9212 Complex.

11 01 05 Comment Number 16

Comment noted. Information has been added to the Final PEIS to describe the results of the Y-12 EA, including the maximum storage capacity (Section 1.4) and structural upgrade requirements (Section 2.3.1).

01 06 00 Comment Number 17

Comment noted. Detailed information regarding DOE's decision will be provided in the ROD which is expected to be published in the *Federal Register* late this year.



STATE OF TENNESSEE

COPY

Don Sundquist
Governor

December 14, 1995

Secretary Hazel O'Leary
United States Department of Energy
1000 Independence Avenue, S.W.
Room 7A-257
Washington, D.C. 20585

Dear Secretary O'Leary:

Recently, agencies of the State of Tennessee submitted comments in accordance with the requirements of the National Environmental Policy Act (NEPA) for the *Draft Waste Management Programmatic Environmental Impact Statement (D-PEIS) for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste, DOE/EIS-0200 D, August 1995*. I have elected to communicate with you directly to insure that the State of Tennessee's policy interests concerning this important D-PEIS are clearly communicated.

My administration strongly opposes and will continue to oppose any attempt by DOE to "site" large waste deposition activities in Oak Ridge, Tennessee. It is disappointing to me that the United States Department of Energy (DOE) continues to seriously consider another short sighted option in a tiring string of waste deposition assessments for Oak Ridge. My administration views all of the alternatives in the current, "Waste Management" D-PEIS that consider disposal of low level mixed waste and low level waste on the Oak Ridge Reservation as technically unsound.

It is commonly known, and widely supported inside and outside of Tennessee that Oak Ridge is one of several sites in the DOE complex that does not possess the appropriate geologic or hydrologic character for such large scale waste deposition activities as currently proposed in your D-PEIS. The National Governor's Association/DOE Disposal Working Group specifically recommended that the Oak Ridge complex be considered only for disposal of a very restrictive list of radionuclides due to an emphasis on protection of human health and the environment.

Your own agency's data summary for waste management sites in the current D-PEIS indicates that the Oak Ridge Reservation currently produces the highest "population dose" among the 54 DOE sites around the nation. We believe that a large scale low level mixed waste and low level waste disposal facility at Oak Ridge would add additional risk to an already unacceptable situation.

State Capitol, Nashville, Tennessee 37249-0001
Telephone No. (615) 741-2001

M-177

07 00 00 Comment Number 18

A brief summary of the Y-12 EA is provided in Section 1.4 of the PEIS, which includes the results of that analysis, identifying the need for structural upgrades to certain buildings.

09 11 05 Comment Number 19

According to the *Oak Ridge Reservation Waste Management Plan* issued January 1996, the High Flux Isotope Reactor pool in Building 7900 has 67 storage positions, of which 62 are presently occupied. The reracking of the storage will increase the number of storage positions to 143. The appropriate section was revised in the Final PEIS to reflect this information.

STATE OF TENNESSEE, DEPARTMENT OF ENVIRONMENT
AND CONSERVATION, OAK RIDGE, TN, JUSTIN WILSON
PAGE 8 OF 8

Page Two
Secretary Hazel O'Leary
December 14, 1995

Despite our concerns, the State of Tennessee recognizes and appreciates the historic role Oak Ridge, Tennessee, has played for the nation and the economic contributions DOE has made to the Oak Ridge community and Tennessee over the past 50 years. We will continue to promote and will accept our responsibility to the nation as a potential site for one or several of the complex suite of activities that DOE must perform. However, I believe that DOE's continued consideration of the most technically unsuitable disposal site in the DOE complex for large scale waste deposition is truly a waste of precious national and state resources. I urged you to invest your agency's energies in alternatives that better meet both the short and long term interests of waste storage.

Sincerely,


Don Sundquist

c: United States Representative Zach Wamp
United States Senator Fred Thompson
United States Senator Bill Frist
Commissioner Don Dills, Tennessee Department of Environment and Conservation
US DOE Headquarters PA Office
Mr. Greg Rudy, Acting Director, Office of Fissile Materials Disposition
NEPA File

M-177



Texas Department of Health

David R. Smith, M.D.
Commissioner

1100 West 49th Street
Austin, Texas 78756-5109
(512) 451-7111

Carol S. Davids
Deputy Commissioner for Programs

Radiation Control
(512) 834-6488

Bert L. Hogue
Deputy Commissioner for Administration

May 6, 1996

Mr. J. David Nulton
Director
Office of Facility Materials Disposition
P.O. Box 23786
Washington, D.C. 20026-3786

Dear Mr. Nulton:

Enclosed are comments on the Storage and Disposition of Weapons-Usable Fissile Materials Draft Programmatic Environmental Impact Statement. Under the Atomic Energy Act, the Department of Energy is not subject to external regulation of the use and handling of fissile nuclear materials. The Secretary of Energy has committed to the Department of Health the feasibility of external regulation by the Nuclear Regulatory Commission (NRC), the Defense Nuclear Facilities Safety Board and/or NRC given the Department's role in the management of weapons-usable fissile materials. We believe that some form of external oversight of DOE activities in the Long-Term Storage phase of this project is in the best interest of the Department and its stakeholders, and encourage the Department to move ahead with this initiative without delay.

Any change in the mission or operations at Pantex resulting from this PEIS must be undertaken with maximum consideration given to full compliance with published standards for protection of the public and environment against the effects of radiation. Future management of Pantex is crucial to the future of the Texas Panhandle, not only in near term socioeconomic terms, but also in fulfilling responsible stewardship of the environment for our successors. Decisions made in this process should be made giving full consideration to the needs of local citizens as well as the nation.

We appreciate having been given the opportunity to participate in this process and sincerely hope that our efforts contribute to overall success in resolving the difficult issue.

Sincerely,

Joseph A. Martillotti
Pantex Special Project Coordinator
Division of Compliance and Inspection
Bureau of Radiation Control

15 00 00

Comment Number 1

The Department of Energy is considering the possible external regulation of its activities at this time; however, decisions on these issues are beyond the scope of this PEIS.

01 00 00

Comment Number 2

The Department of Energy is committed to operating its facilities in full compliance with applicable regulatory requirements.

1/15.00.00

2/01.00.00

F-022

Storage and Disposition DRAFT PEIS Comments	
Summary, Page S-46 - Long-Term Storage Alternatives - The statements concerning land use appear to conflict with Volume II, Pages 4-175 and 4-191 text.	3/09.01.04
Summary, Page S-48 - Comparison of Sites Within Alternatives - The statements concerning environmental impacts do not appear to be supported by the text and appear to be in conflict with Volume II, Pages 4-175 and 4-191 text.	4/09.00.04
Summary, Page S-67 - Facility Accidents - The statements do not provide any information or discussion upon which decisions might be based. A discussion of accident assessments previously documented would provide clarification. Volume I, Chapter 1.1.1, Page 1-2 "Materials Covered in This PEIS" describes the base condition and storage configuration from which decisions will be made. Discussion of the Plutonium Working Group findings, Defense Nuclear Facility Safety Board recommendations and the DOE standard for long-term storage of the fissile materials appears to be absent from the text. Provision of a general summary of the identified vulnerabilities or upgrades to storage conditions would be a useful addition to this table.	
Summary, Page S-78 - Upgrade Existing Facility for Continued Storage - The "estimated impacts from a set of accidents that propagate radioactive releases" data appear to be a replica of Table 2.5.1, Volume I, Pages 2-180. This is identical to "Beyond design basis earthquake" data contained in Table 4.2.3.9-4, Volume II, Page 4-160. Table M.5.2.2-1, Volume III, Page M-269, presents "Upgrade of Pantex Interim Storage" "Evaluation of a Composite Set of Accidents" impacts which are similar (within order of magnitude) but not totally consistent with the above information.	5/09.09.04
Summary, Page S-96 - Consolidate all Pu Material at One Site - The "impacts from a set of accidents that propagate radioactive releases" data appear to be a replica of Table 4.2.4.9-6, Volume II, Page 4-218. "Beyond design basis earthquake" scenario. The Table on Page S-96 replicates Table 2.5.1, Volume I, Page 2-199. However, Table 5.2.1.2-4, Volume III, Page M-242 contains a summary entitled "Evaluation of Composite Set of Accidents" which presents conflicting information.	
Summary, Page S-117 - Collocation of Pu with HEU Storage Upgrade and/or New Facility - The headers of data columns indicate that the projections reflect a set of accidents that propagate radioactive releases. The data presented, with the exception of MEI statistics, match exactly with Table 4.2.4.9-7, Volume II, Page 4-222. The table on S-117 replicates Table 2.5-1, Volume I, Page 2-219. Table 5.2.2.2-4, Volume III, Page M-251 "Collocation Alternative" contains a summary entitled "Evaluation of Composite Set of Accidents" which presents conflicting information.	6/16.00.00
Summary, Pages 149 and 150 appear to be out of order.	
F-022	

09 01 04 Comment Number 3

The Summary has been revised and is now consistent with the land-use impact analysis in Chapter 4 of the Final PEIS (page 4-175 of the Draft PEIS). Volume II, page 4-191 of the Draft PEIS addresses water resources, not land use.

09 00 04 Comment Number 4

Based on comments received, the Summary was revised. The bar charts providing the comparison of impacts for both storage and disposition were deleted from the Summary. The related text was revised to clarify the comparison of impacts and to delete references to "adverse" impacts.

09 09 04 Comment Number 5

In the Draft PEIS Summary tables (Attachments A and B) and Chapter 2 tables (Tables 2.5-1 and 2.5-2) of the Draft PEIS, the impacts from facility accidents are based on those scenarios that were estimated to have maximum impacts from the facility accidents analyzed for each respective alternative. For example, the number of cancer fatalities for the general population and the probability of the facility accident for Upgrade Alternative at Pantex presented in Attachment A (page S-78) of the Summary of Draft PEIS correspond to the "beyond design basis earthquake" which has the highest cancer fatalities among the accidents analyzed for this storage alternative. On the other hand, the "composite set of accidents" presented in the Section M.5 of the Draft PEIS is the weighted-average of all accidents analyzed for this alternative. To avoid confusion and in response to public comments the "composite set of accidents" has been deleted from Appendix M.

For the MEI, the probability of cancer risk from potential accident during 50 years storage facility operation and the cancer risk from the accident, pages S-78 and 2-181 of the Draft PEIS should correspond to the respective values for the beyond design basis earthquake in Chapter 4 and Section M.5.

The risk from potential accidents is the magnitude of the accident consequence (fatal cancer risk for MEI and non-involved worker and fatal cancers for population) multiplied by the probability that the accident will

STATE OF TEXAS, DEPARTMENT OF HEALTH, AUSTIN, TX,
JOSEPH A. MARTILLOTTI
PAGE 3 OF 3

occur. The summary tables in Section 2.5 of the Final PEIS present the accident impacts from the accident with highest risk (the product of the accident consequence and the accident frequency) within a storage or disposition alternative.

16 00 00 Comment Number 6

Pages are in correct order.

STATE OF TEXAS, OFFICE OF THE ATTORNEY GENERAL,
AUSTIN, TX, ATTORNEY GENERAL DAN MORALES
PAGE 1 OF 2

01 06 00 Comment Number 1

The Department of Energy acknowledges the commentator's opposition to new missions at Pantex. The utilization of MOX fuel for Pu disposition is not considered reprocessing and is consistent with the President's Nonproliferation Policy. Decisions on storage and disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economical studies, national policy considerations, and public input.



Office of the Attorney General
State of Texas

DAN MORALES
ATTORNEY GENERAL

May 13, 1996

The Honorable Hazel R. O'Leary
Secretary of Energy
7A257 Forrestal Bldg.
1000 Independence Ave., S.W.
Washington, D.C. 20585

Re: COMMENTS REGARDING FUTURE ACTIVITIES AT PANTEX

Dear Secretary O'Leary:

Upon review of the three interrelated environmental impact statements ("EISs") regarding the reconfiguration and future of the Department of Energy's nuclear weapons complex,¹ I am becoming increasingly concerned that the Department of Energy ("DoE") may soon decide to process plutonium pits at the Pantex facility. I am furthermore concerned—once again—that the Texas Panhandle will become the *de facto* permanent dump for the nation's surplus plutonium supply. Given the 24,000 year half-life of plutonium and the distinct possibility that the environmental, political, and social issues surrounding any other permanent disposition of plutonium will not be resolved in the foreseeable future, this is an ominous development for Texas.

I have attached previous correspondence between DoE and my office dating back to 1991. As is readily apparent from that correspondence, I have long been firmly opposed to both propositions. Unfortunately, it now appears that we are moving closer to decisions by DoE that will unfairly burden Texans during the coming decades and needlessly impose risks on the farmers and ranchers who depend upon the Ogallala Aquifer underlying Pantex.

A decision by DoE to begin plutonium reprocessing, with its attendant problems and risks for residents throughout the Panhandle, or a decision to store surplus plutonium (i.e., nuclear waste) on a medium- or long-term basis, is unacceptable to this office. Accordingly, I have instructed my staff to renew its efforts to develop all available legal options to prevent DoE from turning the Texas Panhandle into a *de facto* nuclear waste dump, or another Rocky Flats.

I realize that you and your office have made great strides in incorporating the concerns of all stakeholders in your decision-making process. For that, you deserve much credit. Unfortunately, I do not believe that the

¹ The three EISs are: (a) the PEIS on Storage and Disposition of Weapons-Usable Fissile Materials (which discusses, *inter alia*, the mixed-oxide fuel option in the most detail and discusses the alternatives, including a facility to cut the pits in two and process them into metal or oxide; to process other types of plutonium; and to mix plutonium with uranium to make mixed oxide fuel (MOX) to be used in nuclear power plants); (b) the Site Wide EIS for Pantex (which discusses the Pit Reuse facility in lesser detail); and (c) the PEIS on Stockpile Stewardship and Management.

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AUSTIN, TEXAS 78711-2548

M-199

1/01.06.00

STATE OF TEXAS, OFFICE OF THE ATTORNEY GENERAL,
AUSTIN, TX, ATTORNEY GENERAL DAN MORALES
PAGE 2 OF 2

May 13, 1996
Page 2

solutions that DOE appears to be adopting solve the environmental and bureaucratic problems associated with storing and/or disposing of plutonium for decades, centuries, and even millennia.

Sincerely,



Dan Morales
Attorney General

Enclosure

c: DOE-Office of Fissile Materials Disposition
c/o SAIC/PEIS
P.O. Box 23788
Washington, DC 20026-3786

Ms. Nanette Founds
U.S. Department of Energy
Albuquerque Operations Office
P.O. Box 5400
Albuquerque, NM 87185-5400

Jay Rose
Office of Reconfiguration
1000 Independence Avenue, S.W.
Washington, D.C. 20585

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STATE OF TEXAS, OFFICE OF THE GOVERNOR, AUSTIN, TX,
GOVERNOR GEORGE W. BUSH
PAGE 1 OF 1

08 03 01 Comment Number 1

The Department of Energy acknowledges the commentor's support of Pantex. Decisions related to future missions at Pantex will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.



STATE OF TEXAS
OFFICE OF THE GOVERNOR

GEORGE W. BUSH
GOVERNOR

May 6, 1996

The Honorable Hansi O'Leary
The Secretary of Energy
U.S. Department of Energy
Washington, D.C. 20585

Re: Comments on Stockpile Stewardship and Management and Storage and Disposition of Weapons-Usable Fissile Materials Draft Programmatic Environmental Impact Statement.

Dear Madam Secretary:

The Pantex Nuclear Weapons Plant has been a key component in our nation's ability to achieve and maintain a strong national defense. The success at Pantex is a result of several factors, including good managers and dedicated, skilled, hard-working, efficient, and safety-conscious employees.

This nation continues to face an uncertain future with many risks. An effective strategy for diminishing those risks is to retain our core of expertise at the Pantex Plant. The Programmatic Environmental Impact Statements now being reviewed demonstrate that such a strategy is the best option for our nation's taxpayers.

The Pantex Plant enjoys broad community support because it has successfully demonstrated it can safely carry out its mission of assembling and disassembling nuclear weapons. That history of safety, success, and efficiency is the foundation for the future of the Pantex Plant.

The State of Texas is prepared to continue to assist Pantex with the significant role it plays in keeping the United States the defender of the free world.

Sincerely,

A handwritten signature of George W. Bush in dark ink.
GEORGE W. BUSH

1/08.03.01

F-024

STATE OF TEXAS, OFFICE OF THE GOVERNOR, AUSTIN, TX,
ROGER MULDER
PAGE 1 OF 12

STATE OF TEXAS OFFICE OF THE GOVERNOR GEORGE W. BUSH GOVERNOR May 6, 1996 The Honorable Hazel O'Leary Secretary of Energy U.S. Department of Energy Washington, D.C. Dear Madam Secretary: Enclosed are the comments from those individuals tasked by the State of Texas under the Agreement in Principle to evaluate the Draft Programmatic Environmental Impact Statements regarding Stockpile Stewardship and Management, and Storage and Disposition of Weapons-Usable Fissile Materials. Pending before you is a request, from the Pantex Plant Citizens' Advisory Board and the Governor's Office, to extend the commenting period on the two documents to July 12, 1996. As was noted in that request, there is simply too much material to adequately review in such a short period of time. Should the May 7, 1996 deadline be extended, the enclosed comments will be amended to include a more detailed and thorough analysis. Sincerely, <i>Roger Mulder</i> ROGER MULDER Director, Pantex 1/08.01.00	08 01 00 Comment Number 1 At the request of several organizations and individuals, the public comment period was extended to a total of 92 days. F-025

STATE OF TEXAS, OFFICE OF THE GOVERNOR, AUSTIN, TX,
ROGER MULDER
PAGE 2 OF 12



STATE OF TEXAS
OFFICE OF THE GOVERNOR

CRISTINA W. TUSHNET
GOVERNOR

May 6, 1996

U.S. Department of Energy
Office of Reconfiguration
P.O. Box 3417
Alexandria, Virginia 22302

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

Re: Comments on Stockpile Stewardship and Management (SSM) and
Storage and Disposition (S&D) of Weapons-Usable Fissile Materials Draft
Programmatic Environmental Impact Statements (PEIS).

On behalf of the State of Texas, the Office of the Governor would like to thank you for the opportunity to comment on the U.S. Department of Energy's PEISs on Stockpile Stewardship and Management, and Storage and Disposition of Weapons-Usable Fissile Materials. Because those issues are so closely intertwined with the Pantex Site-Wide EIS, some of my comments may address that document as well.

First and foremost, the State of Texas would like to re-emphasize our insistence that all current and future missions at Pantex be conducted in a safe and environmentally sound manner. Pantex has a long history of being a good neighbor, and one of the primary reasons is because it believes in protecting human health and safety, and the environment.

Based upon a review of all of the PEIS volumes, and statements made during the public hearings in Amarillo by DOE officials on April 22 and 23, 1996, our conclusions were confirmed that all actions considered for Pantex will have no significant impact on the health of workers nor any significant adverse impacts on the environment in the Amarillo area.

Post Office Box 12438 Austin Texas 78711 (512) 463-2000 (voice) (512) 463-6777 (fax)

F-025

DOE PEIS Comments
 May 6, 1996
 Page Two

However, as stated numerous times in the public hearings, there is concern that this statement of no significant impact is not clear in the summary document of the Storage and Disposition PEIS.

Instead, what is stated numerous times is: "Adverse impacts to water resources at Pantex would result from the continued local draw down of the Ogallala Aquifer, but Pantex's contribution to this draw down is expected to continue to decrease due to a decrease in other DOE activities at Pantex. Neither surface or ground water resources at other DOE sites would be affected."

2/09.04.04

The State of Texas believes this statement inaccurately and incorrectly singles out Pantex as an unacceptable site for its existing mission, as well as for any future missions. We ask that this be corrected immediately.

In reference to the statements regarding adverse impacts, the Amarillo community was told by DOE officials during the public hearings that there were no significant impacts on the environment, safety, or health from current or future missions proposed at Pantex. Therefore, the inaccurate perception of adverse effects, noted in the summary S&D document, should be corrected in the final document.

Toward that end, the State of Texas requests that in the S&D PEIS summary document, a clear statement should be added that no significant environmental impact would result from any considered alternatives at Pantex. In addition, the ranking of sites based upon these insignificant impacts (found in the sections Long-Term Storage Alternatives (page S-46), Disposition Alternatives (page S-46), and Comparison of Sites Within Alternatives (page S-48)) should be removed from the final report.

3/09.00.08

If the DOE insists upon using the word *adverse* in the final document to denote any deviation from the "natural state" of the environment, it should be applied equitably among all sites and quantified with the level of significance, since any action that disturbs nature could be considered adverse and every site considered would have adverse impacts for all alternatives.

4/09.00.08

The State of Texas is pleased that DOE selected Pantex as the preferred alternative for assembly/disassembly, thereby abandoning earlier plans to transfer those functions to the Nevada Test Site.

F-025

09 04 04 Comment Number 2

Although Pantex is contributing to the depletion of the Ogallala Aquifer, additional groundwater drawdowns from the Proposed Actions for the various long-term storage alternatives are expected to be very small. The Summary was revised to emphasize that, under the No Action Alternative, Pantex's water use from the Ogallala Aquifer is expected to decrease significantly by the year 2005, and that additional withdrawals attributed to the Preferred Alternative are still expected to be less than what is currently being withdrawn.

09 00 08 Comment Number 3

The Department of Energy did not intend to give the perception that the sites were ranked. Based on comments received, the Summary of the Draft PEIS was revised. All revisions made to the PEIS text appear in the Summary of the Final PEIS.

09 00 08 Comment Number 4

Based on comments received, the Summary was revised. The related text was revised to clarify the comparison of impacts and to delete reference to "adverse" impacts.

STATE OF TEXAS, OFFICE OF THE GOVERNOR, AUSTIN, TX,
ROGER MULDER
PAGE 4 OF 12

DOE PEIS Comments
May 6, 1996
Page Three

The same factors that lead DOE to make the correct decision in assembly/disassembly activities, should be applied to the issue of moving the High Explosives production operations from Pantex. DOE's own estimate that such a move would cost at least \$40-\$50 million should make Pantex the only choice for those activities.

Another factor is the risk involved in transporting the material from Pantex. And finally, there is a significant technology risk, should the High Explosives production program leave Pantex, while the highly skilled, experienced workers choose to remain in the Amarillo area.

If the statement is made that there simply is not enough work to keep workers busy in both the New Mexico labs and Pantex, the obvious choice is to keep the work at Pantex and allow the lab personnel the opportunity to maintain their proficiency by visiting Pantex.

Since that work is done at Pantex today, how are the lab personnel currently maintaining the desired level of proficiency?

STORAGE OPTIONS

Pantex has a proven history of safely storing nuclear weapons over the past 40 years.

Pantex could continue to store plutonium which is already at the site and upgrade facilities for the storage options being considered by DOE with minimal cost and difficulty. Pantex currently safely houses more than 8,000 surplus pits. It makes little sense to re-create storage facilities at another site and then unnecessarily transport large amounts of plutonium across the country from Pantex.

Pantex has the necessary safety, security, and surveillance capabilities to accommodate an expanded role with minimal costs and it is the production site closest to Los Alamos, the planned pit fabrication site.

08 03 01 Comment Number 5

The Department of Energy acknowledges the commentator's support for the Upgrade Storage Alternative. Decisions on storage of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

5/08.03.01

F-025

STATE OF TEXAS, OFFICE OF THE GOVERNOR, AUSTIN, TX,
ROGER MULDER
PAGE 5 OF 12

DOE PEIS Comments
May 6, 1996
Page Four

We believe any future missions at Pantex related to plutonium can be successfully carried out, provided the following three criteria are met:

1. Continued Local Support
2. Proven Technology
3. Independent Oversight

OFF-LINE ISSUES

During the public hearings in Amarillo, a number of comments were made from the audience requiring clarification from the DOE presenters.

Unfortunately, on more than one occasion, the response from the DOE official was that he and the questioner should "discuss that issue off-line."

Because the State of Texas believes that to be a totally inappropriate and unacceptable response to make, especially at a public hearing called for the sole purpose of discussing the issues contained in the PEISs, I attempted to capture as many of those questions in writing as possible.

STORAGE AND DISPOSITION OF WEAPONS-USABLE FISSILE
MATERIALS PEIS ISSUES

Comment:

Section 1502.1 of 40 CFR Parts 1500-1508, the regulations implementing the National Environmental Policy Act, states:

F-025

DOE PEIS Comments
May 6, 1996
Page Five

"The primary purpose of an environmental impact statement is to serve as an action-forcing device to ensure that the policies and goals defined in the Act are infused into the ongoing programs and actions of the Federal Government. It should provide full and fair discussion of significant environmental impacts and shall inform decision-makers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment. Agencies shall focus on significant environmental issues... Statements shall be concise, clear and to the point, and shall be supported by evidence that the agency has made the necessary environmental analyses." (Emphasis added)

Question

In light of these very clear and concise instructions based in law, how does DOE rationalize that Pantex is identified as having:

6/09.00.04

"the greatest potential to experience adverse cumulative impacts, particularly because of its relatively small, compact area. Water resources and biological resources would be vulnerable, and land resources... could be susceptible to adverse cumulative impacts" (p. S-46) (Emphasis added)

Comment

The Summary discusses three plutonium disposition categories (deep borehole, immobilization and reactor) consisting of nine alternatives, and ultimate high-level waste disposition.

Questions:

- If the immobilization alternatives and reactor alternatives (except CANDU) result in the same ultimate disposition, i.e. a high-level waste repository, what is the cost/benefit of the reactor alternatives?
- Are the references to a high-level waste repository referring to DOE's Yucca Mountain project in Nevada?
- What would constitute ultimate disposition in the case of the CANDU reactor alternative? Would the Canadians be allowed to send the resultant high-level nuclear waste back to the U.S.?

7/07.02.00

8/12.01.00

9/06.05.08

09 00 04 Comment Number 6

Based on comments received, the Summary of the Draft PEIS was revised. There was no intention to portray Pantex, the Pantex region, or the Texas Panhandle region in a negative fashion. Each DOE site was analyzed and studied in the same manner and presented in the Draft PEIS per these analyses and studies. All revisions made to the PEIS text are reflected in the Summary of the Final PEIS.

07 02 00 Comment Number 7

Cost data, along with technical and schedule data, were provided in a Technical Summary Report for disposition beginning in late July 1996.

12 01 00 Comment Number 8

The Draft PEIS does not assume the use of Yucca Mountain as a HLW repository for disposal of MOX spent nuclear fuel and/or immobilized materials. However, since Congress directed Yucca Mountain to be the only site considered for evaluation (site characterization) for the disposition of spent nuclear fuel and HLW, data developed to date at this site has been used to evaluate the potential for disposing of surplus weapons-usable Pu.

06 05 08 Comment Number 9

No. The spent fuel would be retained within the Canadian spent fuel program.

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STATE OF TEXAS, OFFICE OF THE GOVERNOR, AUSTIN, TX,
 ROGER MULDER
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 May 6, 1996
 Page Six

Comment

The off-repeated phrase appears in the Summary:

"Potential adverse interstate transportation impacts related to all DOE sites could occur because of the increased risk of traffic accident fatalities."

10/10.00.00

Question:

Does any other site, except Pantex, have the capability to avoid the problem of having to ship the 21.8 metric tons of plutonium declared surplus by the President, since the material is already at Pantex?

11/10.00.00

Is there no risk to human health associated with intersite transportation of radioactive materials? Has a dose risk assessment been made?

10/10.00.00
 cont.

Comment

In the Storage and Disposition Summary it is stated (page S-20) that "Potential adverse impacts to waste management would occur at Pantex, ORR (all three options), and SRS, because the construction of sanitary, utility, and process waste water treatment systems to treat non hazardous liquid wastes may be required."

12/09.11.08

Question

How can the construction of facilities and systems to treat waste have the potential to adversely impact the management of waste? Is this a significant environmental impact as intended by Section 1502.1 of the NEPA regulations?

10 00 00 Comment Number 10

The human health risks of material transportations associated with the proposed Pu storage and disposition alternatives are evaluated and presented in Section 4.4 of this PEIS. The more detailed description of the methodology and supporting data for the analysis is presented in Appendix G. Transportation of radioactive materials between sites includes health risks for both normal operations and accident conditions to the public and workers.

10 00 00 Comment Number 11

The Pu material at Pantex, as well as Pu and HEU at the other five sites, was assumed to be present for the transportation analysis. For the storage alternatives, Table 4.4.3.2-2 of the PEIS indicates Pantex would have the lowest number of potential fatalities. For disposition, almost all surplus pits were assumed to be at Pantex. This is indicated by Pantex having the lowest number of potential fatalities for pit disassembly in Table 4.4.3.3-1 of this PEIS.

09 11 08 Comment Number 12

The conceptual design for the consolidated and collocated storage facilities and the disposition facilities have, as part of their design, waste management facilities that would treat and package all waste generated into forms that would enable long-term storage and/or disposal in accordance with RCRA and other applicable Federal and State statutes and DOE Orders. The impacts of having to construct the waste management facilities are captured in other resource areas such as land use and air quality. The text referring to "potential adverse impacts" to waste management has been deleted.

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Comment

In Volume III of the Storage and Disposition PEIS (pp. M-131 through M-155), the chemicals used are as follows:

Hanford reports 3 chemicals, none with slope factors
NTS reports 28 chemicals, 12 with slope factors
INEL reports 25 chemicals, 6 with slope factors
ORR reports 10 chemicals, none with slope factors
SRS reports 15 chemicals, 5 with slope factors
Rocky Flats reports 10 chemicals, 3 with slope factors.

These reported chemical usages present an erroneous comparison, as all sites under consideration will use similar chemicals. For example, benzene is a combustion product of both diesel fuel and gasoline, and would be common to all sites.

Question:

Was the manner by which the information was requested not specific enough to ensure accurate reporting or are the records at some sites incomplete? Please correct.

Comment

In the Summary (p. S-46), it is stated that "When the other DOE programs previously identified in this section are considered, the rank order of DOE sites in terms of their descending potential for cumulative impacts changes to SRS, INEL, Pantex, NTS, Hanford and ORR." A similar statement appears on p. S-47.

Question

What does this statement mean? It is obscure and demands an explanation that is concise, clear, and supported by evidence.

09 10 08 Comment Number 13

The data calls sent to each site contained the same information and requests. Under the No Action Alternative, the emissions data is from existing site facilities. Since each site has different existing facilities and operations, the chemicals emitted from these facilities are expected to be different. The cancer risk slope factors purely depend on the nature of the chemicals. For proposed new actions, the emissions data would be very similar among the sites. For detailed information on the emission data on each site, please refer to the respective data reports cited in the PEIS.

09 00 08 Comment Number 14

The Department of Energy did not intend to give the perception that the sites were ranked. Based on comments received, the Summary of the Draft PEIS was revised. All revisions made to the PEIS text appear in the Summary of the Final PEIS.

13/09.10.08

14/09.00.08

F-025

15 00 00 Comment Number 15

These comments were forwarded to the Stockpile Stewardship and Management Program for consideration in the Stockpile Stewardship and Management PEIS.

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STOCKPILE STEWARDSHIP AND MANAGEMENT PEIS ISSUES

Comment

Separation of the explosive fabrication and assembly/disassembly missions would require that explosives be transported over long distances in order to be mated with the physics packages. In the case of LLNL, the extensive winter fogs of the San Joaquin Valley that create near zero visibility, sometimes for weeks-on-end, should be considered in any safety analysis.

Question:

- a. Has an analysis been made of the additional hazards of transportation of HE from either of the national laboratories to where it would be used?
- b. What would be the increased costs of in-site transportation?

Comment:

NTS workers and their families associated with the 2,253 new jobs (SSM Summary p. S-32) would likely reside in Las Vegas, NV, which is one of the fastest growing areas in the country.

Question:

Has an analysis been made of the impact of these additional residents on the Las Vegas municipal water supply?

Comment:

The preferred alternative for the location of explosives development has not yet been determined. Moving HE production from Pantex to one of the laboratories is under consideration. Note that there have been attempts to develop the land right next to LLNL's Site 300 fence for new housing.

15/15:00.00

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STATE OF TEXAS, OFFICE OF THE GOVERNOR, AUSTIN, TX,
ROGER MULDER
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Question:

- a. If the operation is moved to either LLNL or LANL, where would the building be placed and the testing be done?
- b. What is the current and projected land use around LANL and LLNL (particularly, Site 300)?

15/15.00.00
cont.

A number of questions were also raised during the April 22-23 hearings in Amarillo that were addressed specifically to the Pantex Site-Wide EIS. Those questions will be included when the State issues its comments on that document.

If you have any questions or need additional information, please write or call me at 512/463-2198.

Sincerely,



ROGER MULDER
Director, Pantex

F-025

Support Material

The major impact areas covered by the S&D PEIS focus on water, air, and land resources. Pantex was named 3 times with air impacts, 4 times with land impacts, 6 times with waste impacts, and at least 11 times with ADVERSE water resource impacts. The statements about air and land impacts may be reasonable because at least one other site was mentioned with similar impacts (i.e. Pantex was not singled out to a large extent. However a more accurate picture would result if DOE stated that these impacts are not significant). The most inaccurate representation in the summary is the discussion of adverse water resource impact, for which Pantex was incorrectly singled out at least 11 times above the other sites. Details are provided below.

Water Resources

• Water Availability:

All comparisons on water resources were made relative to the NO ACTION ALTERNATIVE for each site, with no absolute basis among sites, and always expressed as a percentage of the NO ACTION ALTERNATIVE. Without an absolute basis among sites to ascertain the "true impact on the environment", no rank ordering of sites or preferred alternatives based upon environmental impact can be justified. However, contrary to logic, this was done in the sections titled Long-Term Storage Alternatives (page S-46), Disposition Alternatives (page S-46), and Comparison of Sites Within Alternatives (page S-48).

To make this point clear, for a site that has worked to conserve water in the past, and which has a small water demand, the percentage increase due to any increase in construction or operation activity are disproportionately large relative to a site which has not applied water conservation techniques and which has a large water usage at the NO ACTION ALTERNATIVE (see item #1 below). On the percentage basis used relative only to the NO ACTION ALTERNATIVE, sites which apply conservation techniques are unfairly singled out.

Second, relating everything to the NO ACTION ALTERNATIVE without an absolute basis, implies that the current water demand significantly impacts the available supply or is a significant part of the demand of the local community such that a large percentage increase in water demand detrimentally affects the amount of water available for the local community (i.e. farmers and ranchers). Contrary to that implication in the summary, the impact of any of these activities on the Amarillo area water consumption would be less than 1% (see item #2 below).

16/09.04.08

F-025

09 04 08 Comment Number 16

The use of percentage increases is simply a tool to put the additional water requirements in perspective to the ongoing, or No Action, usage at the sites. The impacts are based on the ability of the local water supply to support the requirements of the site and the Proposed Action, regardless of how large the percentage increase is. If a site's water requirements would affect the local water supply, this would be clearly stated in the PEIS. For example, at Hanford, the Columbia River is a particularly abundant water supply. If Hanford increased its water usage by several thousand percent, the effect on the availability of Columbia River water would be minimal. This would be reflected in the PEIS analysis. Conversely, Pantex is the only DOE site under consideration in this PEIS where water availability is a concern. Pantex's contribution to the depletion of the Ogallala Aquifer must be analyzed; any contribution to this depletion does affect the water resources of the area. However, for the storage alternatives, the impact to water resources at Pantex is expected to be minimal. The Summary of the Final PEIS was revised to indicate that Pantex's No Action (year 2005) water usage is considerably less than what is currently being withdrawn, and that minor impacts to water resources are expected from the various storage alternatives and the Preferred Alternative.

In regard to water conservation techniques, sites that apply these measures are generally ones where water supply may be a limiting factor. Sites having an abundant water supply do not necessitate water conservation techniques.

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ROGER MULDER
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To put this issue in perspective, the baseline (NO ACTION ALTERNATIVE) water consumptions are summarized below taken from the Summary S&D PEIS in million liters per year (MLY) focused only on the ground water component:

NO ACTION ALTERNATIVE (MLY)						
Hanford	NTS	INEL	Pantex	Oak Ridge	SRS	RFETS
13,511	2,400	7,570	249*	14,760	13,247	439

* note the water use at Pantex for 1984 was 836 MLY and is "expected" to decrease to 249 MLY by 2005 due to drawdown (a small baseline made smaller). Ref: Vol II, p 4-187.

Item #1: The PEIS quotes increases in ground water usage for Pantex for the various alternatives from 2.8% to 44.2% above the NO ACTION ALTERNATIVE (this percentage increase is based upon the projected baseline of 249 MLY for the year 2005, a decrease from the current use rate of 836 MLY). Taken out of context, these numbers seem extreme. Indeed, these percentages were incorrectly brought forward in the word summary using this statement repeatedly: "Adverse impacts to water resources at Pantex would result from the continued local drawdown of the Ogallala Aquifer, but Pantex's contribution to this drawdown is expected to continue to decrease due to a decrease in other DOE activities at Pantex. Neither surface or ground water resources at other DOE sites would be affected." This causes the inaccurate perception that the large projected percentage increase in water use would be detrimental to the welfare of the local community. This might have been true if indeed the absolute demand placed on the available resources was significant. But, the maximum estimated increase is less than 1% of the water use in the area and a 44% increase of 1% is only 0.4% absolute increase (and this was based upon the 2005 projection, relative to current operations it would be a 57% decrease in water usage).

Item #2 (Ref: Vol 1, p 3-158 to 3-162):

- A. In 1984 while Pantex was drawing 836 MLY (836×10^6 L), the city of Amarillo pumped 23.9 BLY (23.9×10^9 L), from the Canon County well field. Using the PEIS number of 249 MLY in 2005, this equates to about 1% of the Town's water use. If water pumped directly by agriculture (which does not go through the Amarillo's water plant) were included this figure the relative demand by Pantex on the water drawn from the Ogallala Aquifer would be well below 1%.

- B. The recoverable water volume in storage and available for use in the Ogallala Aquifer in the High Plains Aquifer system is estimated at 5.15×10^{14} L. At this rate, if Pantex were operated for 1000 years using the highest water demand of all alternatives (Colocation - 379 MLY), Pantex would use less than 7/100% of the available water.

In summary, the repeated statements of adverse impacts on groundwater resources for any and all alternatives is based upon an inaccurate reference point and the actual impact brought out in the draft summary has no basis. To satisfy the requirement to make comparisons of water usage against the no action alternative, we suggest that the no action alternative be placed on a percentage basis of actual area water usage to allow for an equitable and objective comparison between sites. For any sites where this percentage increase is insignificant, the PEIS and its Summary should state that fact clearly.

16/09.04.08
cont.

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STATE OF TEXAS, OFFICE OF THE LIEUTENANT GOVERNOR,
AUSTIN, TX, LIEUTENANT GOVERNOR BOB BULLOCK
PAGE 1 OF 6



Bob Bullock
Lieutenant Governor of Texas
President, Texas Senate

The Capitol
Austin, Texas 78711-2048
(512) 463-0001

March 28, 1996

The Honorable Hazel O'Leary
Secretary of Energy
c/o Mr. Bruce G. Twining
U.S. Department of Energy
P.O. Box 5400
Albuquerque, New Mexico 87185-5400

Dear Madam Secretary:

It has come to my attention that you are scheduled to hold public hearings in Amarillo on April 22 and 23, regarding the future role of the Pantex facility located in Amarillo, Texas.

The people of Pantex and the Amarillo area have for decades made an invaluable contribution to the security of our nation. Texas and the communities in that area have long provided strong public and political support, as opposed to the hostile environment that faced other nuclear facilities in the past.

Even though the threat of war has lessened, we cannot afford to relax our defense policies. By maintaining our nuclear superiority, we can assure the safety of our country. Consequently, maintaining what has been achieved through the work and dedication of the people of Pantex is as important today, and for the future, as it was in recent decades.

While Pantex is important to the economy of Texas and the Amarillo area, the federal government also benefits from this arrangement. Economically, the existence of Pantex is in the best interest of the government and the citizens who support it. Pantex is already established as a first-class facility, and it is willing and able to undertake any new functions which may be assigned to it. Give us the task, and we will keep getting it done.

By any measure, Pantex is the best choice for the present and future nuclear needs of our country.

Sincerely,

BOB BULLOCK
Lieutenant Governor

BB:de

cc: U.S. Department of Energy, Office of Reconfiguration
U.S. Department of Energy, Office of Finite Materials

08 03 01 Comment Number 1

The Department of Energy acknowledges the commentor's support of Pantex. Decisions related to future missions at Pantex will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

1/08.03.01

M-005

STATE OF TEXAS, OFFICE OF THE LIEUTENANT GOVERNOR,
AUSTIN, TX, LIEUTENANT GOVERNOR BOB BULLOCK
PAGE 2 OF 6

LAW OFFICES OF RANDALL H. ERBEN

807 Brazos, Suite 402
Austin, Texas 78701
(512) 472-1682
FAX (512) 477-9029

RANDALL H. ERBEN

*Tony - Governor Bullock wrote
a similar letter last year (see
enclosed) for a similar hearing.*

*I'd be grateful if you'd consider
doing something like his 8/95 letter,
or this one. Thanks - call if
you have questions.*

saved Drafts of their
le Stewardship and
D), and is planning
atic Environmental
'antex site-specific
es in the other EIS

These documents, and the hearing, are critical for the future of Pantex. While the Draft of the SSM PEIS has abandoned DOE's plan to transfer all weapons-related functions from Pantex to the Nevada Test Site and the national laboratories, Pantex is expected to lose more than half its workforce beginning in 1998 under contemplated downsizing of the plant. This is possible in spite of the fact that Pantex is by far the most cost-effective site for these functions and makes the most sense from a national security perspective to maintain our nuclear deterrent.

The process which DOE is undergoing is akin to base closures. While we are playing a "less-than-zero-sum-game", the pie is shrinking, and continued "phase-out" of Pantex and many of its 3,500 jobs is a still a very realistic option unless we position Pantex both to (1) retain as much of the stewardship and management activities as possible (e.g. high explosives fabrication) and (2) become the focal point of the transition from military applications to "civilian" stewardship of special nuclear materials, as well as other new missions. Also at stake is the new Amarillo National Resource Center for Plutonium (ANRCP), operated by The Texas A&M University System, Texas Tech University, and The University of Texas System, on behalf of the State of Texas.

The first step in defending Pantex from significant and unwarranted downsizing is participation at the April 22 and 23 public hearings. Therefore, I would request that you seriously consider presenting oral and/or written comments at the upcoming DOE hearings. On these dates, DOE will conduct joint meetings to receive public testimony

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AUSTIN, TX, LIEUTENANT GOVERNOR BOB BULLOCK
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March 22, 1996
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and comments at the Radisson Inn Amarillo Airport, 7909 I H 40 East at Lakeside, Amarillo 79104. The workshop format of this meeting (which is different from the more formal hearings used in the past by DOE) has the stated purpose of allowing the public to interact directly and exchange information with DOE representatives.

Because of this alteration from prior practice, formal oral testimony will probably not be accepted (though your attendance and participation in the discussions would be appreciated and DOE would certainly make any necessary arrangements to ensure you had an opportunity to make a statement). Accordingly, making the submission of formal written testimony is the best (and most time-efficient) avenue for expression of your views. Written testimony should be sent to:

For **SSM**: U.S. Department of Energy
Office of Reconfiguration
P.O. Box 3417

Alexandria, Virginia 22302
For **S&P**: U.S. Department of Energy
Office of Fissile Materials
P.O. Box 23786

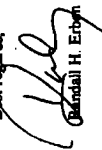
Washington, DC 20026

Comments must be received prior to May 7, 1996.

For your convenience, I have enclosed some material to assist you in the preparation of your testimony. The enclosed text is appropriate for both environmental impact statements. Therefore, a convenient solution would be to draft a letter to both offices (using dual addresses) and mailing an identical letter to both. If you desire, you can forward me your letter and I would be happy to send it to both offices if that is more convenient. I am happy to assist in the submission of your comments and with further briefing materials to help in the drafting of any testimony.

Please call me if you have questions, desire assistance with arrangements to attend any of these events, or to testify or submit comments for the April 22nd and 23rd hearings. If you do plan to attend, I would be happy to also assist in making arrangements with DOE to ensure you are recognized for an oral statement at a time convenient to you. Thank you for your interest.

Best regards,



Randall H. Eichen

Enclosures

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STATE OF TEXAS, OFFICE OF THE LIEUTENANT GOVERNOR,
AUSTIN, TX, LIEUTENANT GOVERNOR BOB BULLOCK
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Fidelity National Information Group	
977-9029	463-0039

Bob Bullock
Lieutenant Governor of Texas

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The Capital
Austin, Texas 78711-3048
(512) 462-0001

The Honorable Hazel R. O'Leary
Secretary of Energy
c/o Mr. Stephen M. Schickel
U.S. Department of Energy
P.O. Box 3417
Alexandria, Virginia 22302

Dear Madam Secretary:

The Department of Energy is in the process of determining the future role of the Paines facility located in Amarillo, Texas.

The people of Paines and the Amarillo area have for decades made an invaluable contribution to the security of our nation. Texas and the communities in that area have long provided strong public and political support, as opposed to the hostile environment that faced other nuclear facilities in the past.

Paines and its people did their jobs when achieving peace through strength and avoiding war on an unprecedented scale were the nation's top priorities. Maintaining what has been achieved through the work and dedication of the people of Paines is every bit as important in this post-Cold War era as our defense objectives of recent decades.

It would be strange indeed if Paines was to be abandoned when its mission is, so to speak, only half completed.

Yes, keeping Paines in the economic interest of Texas. But, keeping future nuclear weapons programs at Paines is also in the best interest of the federal government and the taxpayers who support it. Others have and will urge the members supporting Paines. I want to emphasize that the people of Texas and the Amarillo area are clearly forward on and supportive of the mission assigned for Paines and its continuing mission. Give us the lead, and we will keep getting it done.

By any measure the wisest choice for the Department's Stockpile Stewardship and Management Program is Paines.

Sincerely,

Bob Bullock
Lieutenant Governor

cc: Mr. Randy Krehen

M-005

STATE OF TEXAS, OFFICE OF THE LIEUTENANT GOVERNOR,
AUSTIN, TX, LIEUTENANT GOVERNOR BOB BULLOCK
PAGE 5 OF 6

DRAFT

April __, 1996

U.S. Department of Energy
Office of Reconfiguration
P.O. Box 3417
Alexandria, VA 22302

U.S. Department of Energy
Office of Fissile Materials
P.O. Box 23786
Washington, DC 20026

Re: Comment on Stockpile Stewardship and Management (SSM) and Storage and Disposition (S&D) of Weapons-Usable Fissile Materials Draft Programmatic Environmental Impact Statements (PEISs).

Thank you for the opportunity to comment on the U.S. Department of Energy's (DOE) Programmatic Environmental Impact Statements (PEISs) on Stockpile Stewardship and Management (SSM) and Storage and Disposition (S&D) of Weapons-Usable Fissile Materials. Please also consider this my comment on the Pantex Site-Wide Draft Environmental Impact Statement, since most of the issues addressed in these documents are identical.

First and foremost, I am adamant that any current and future functions at Pantex will be conducted in a safe and environmentally sound manner. Our first priority is to ensure any expansion at Pantex be implemented in a way that 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, including expansion.

I. Generally, I am pleased that DOE selected Pantex as the preferred alternative for assembly/disassembly, thereby abandoning earlier plans to transfer those functions to the Nevada Test Site (NTS) which would have been cost prohibitive and never been adequate to meet future needs. However, by failing to recognize Pantex as the preferred candidate site for new and/or consolidated stockpile management facilities, the DOE overlooks the best site for maintaining the integrity of the U.S. nuclear stockpile and attaining maximum efficiencies and cost savings.

II. SSM PEIS:

1. Pantex is the best place to site new construction/stewardship activities. Pantex is perhaps the most cost-effective alternative for any new construction of SSM facilities. First, labor costs, utility rates, and water and land availability at Pantex, as well as public and political support, are more amenable than those at any other Complex site. It is appropriate to consider Pantex as an alternative site for all future defense-related facilities to complement activities at the national labs (such as the planned Atlas Facility and plutonium pit fabrication site at Los Alamos National Laboratory [LANL]). DOE makes no mention of a strategic plutonium reserve that is necessary to meet future national security needs, even though the PEIS mentions that strategic storage should be co-located with disassembly. Pantex should be the preferred site for such a mission in coordination with its management functions. The location of additional defense-related

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AUSTIN, TX, LIEUTENANT GOVERNOR BOB BULLOCK
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activities at Pantex would ensure that core technical capabilities are preserved at a location that can secure them at the most efficient cost to the American people. In its deliberations, DOE should insist that *budgetary comparisons between Pantex and other sites are accurate, and include capital, transportation, training, remediation, and other costs.*

2. Pantex is the best site to continue High Explosives fabrication. Consistent with the strengths identified above for increased stewardship and management duties, the high explosives (HE) functions should also remain at Pantex. Because the production assembly/disassembly functions remain at Pantex, the HE fabrications duties should be present at the corresponding site. After all, the SSM Draft admits that Pantex must retain HE capabilities to process the inventories already on site from dismantling. Therefore, the least expensive alternative is to maintain HE functions at Pantex. I adamantly disagree with the statement in the draft PEIS that there are no advantages to siting high explosives at Pantex as opposed to the national labs. The capital outlay alone necessary for transfer is cost prohibitive. In addition, should future need arise for new weapons production, it will be critical to have the HE facilities at the weapons production/assembly site.

III. Fissile Materials (Plutonium) Storage and Disposition PEIS. As the sole DOE-authorized facility for assembly and disassembly of nuclear weapons, Pantex has historically handled these functions in a safe and efficient manner for more than 40 years. One of the challenges faced after dismantling a significant portion of the nuclear stockpile is processing or disposal with the materials that remain. The DOE is considering several options. Once again, acknowledging cost savings considerations, Pantex could continue to store plutonium which is already at the site and upgrade facilities for any and all storage options being considered by DOE with minimal cost and difficulty. Pantex currently safeguards more than 8,000 surplus pits and plans are being made to ship additional pits from Rocky Flats to Pantex. It makes little sense to re-create storage facilities at another site and then unnecessarily transport large amounts of plutonium across the country from Pantex. The budgetary and political costs for such a decision would be enormous. Because of these costs, Pantex also should be designated the preferred site for any disposition options and related functions. It makes budgetary and policy sense to site disposition where storage already exists. Furthermore, it makes no sense from any perspective, budget or otherwise, to site strategic storage at one site and surplus at another. Pantex should be selected for both storage functions. Pantex has the necessary safety, security, and surveillance capabilities to accommodate an expanded role with minimal costs and it is the production site closest to Los Alamos, the planned pit fabrication site.

IV. Conclusion. Based upon these reasons, I respectfully urge DOE to designate Pantex as the preferred alternative site for all existing and new stockpile management and stewardship functions as well as consolidation of all plutonium storage and disposition and any related functions. Thank you for the opportunity to comment on these documents.

Yours truly,

M-005



DAVID SWINFORD
STATE REPRESENTATIVE

COMMITTEES
APPROPRIATIONS
AGRICULTURE AND
LIVESTOCK
LOCAL AND CONSENT
CALIFORNIA

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April 15, 1996

COPY FOR YOUR
INFORMATION

U.S. Department of Energy
Office of Reconfiguration
P.O. Box 3417
Alexandria, VA 22302

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

Re: Comment on Stockpile Stewardship and Management (SSM) and Storage and Disposition
(S&D) of Weapons-Usable Fissile Materials Draft Programmatic Environmental Impact
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First and foremost, I am adamant that any current and future functions at Pantex will be conducted in a safe and environmentally sound manner. Our first priority is to ensure any expansion at Pantex be implemented in a way that 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, including expansion.

I am pleased that DOE selected Pantex as the preferred alternative for assembly/disassembly, directly abandoning earlier plans to transfer those functions to the Nevada Test Site (NTS) which would have been cost prohibitive and never been adequate to meet future needs. However, by failing to recognize Pantex as the preferred candidate site for new and/or consolidated ready-to-manage management facilities, the DOE overlooks the best site for maintaining the integrity of the U.S. nuclear stockpile and attaining maximum efficiencies and cost savings.

Pantex is perhaps the most cost-effective alternative for any new construction of SSM facilities. First, labor costs, utility rates, and water and land availability at Pantex, as well as public and political support, are more amenable than those at any other Complex site. It is appropriate to consider Pantex as an alternative site for all future defense-related facilities to

1/15.00.00

DISTRICT #1
POTTER AND MOORE COUNTIES

TX-042

15 00 00 Comment Number 1

These comments were forwarded to the Stockpile Stewardship and Management Program for consideration in the Stockpile Stewardship and Management PEIS.

STATE OF TEXAS, STATE REPRESENTATIVE, AUSTIN, TX,
DAVID SWINFORD
PAGE 2 OF 2

08 03 01

Comment Number 2

The Department of Energy acknowledges the commentor's support of Pantex. Decisions related to future missions at Pantex will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

complement activities at the national labs (such as the planned Atlas Facility and plutonium pit fabrication site at Los Alamos National Laboratory). DOE makes no mention of a strategic plutonium reserve that is necessary to meet future national security needs, even though the PEIS mentions that strategic storage should be co-located with dismantlement. Pantex should be the preferred site for such a mission in coordination with its management functions. The location of additional defense-related activities at Pantex would ensure that core technical capabilities are preserved at a location that can secure them at the most efficient cost to the American people. In its deliberations, DOE should insist that budgetary comparisons between Pantex and other site are accurate, and include capital, transportation, training, remediation and other costs.

Consistent with the strengths identified above for increased stewardship and management duties, the high explosives functions should also remain at Pantex. Because the production assembly/dismantlement functions remain at Pantex, the high explosives fabrication duties should be present at the corresponding site. After all, the SSM Draft admits that Pantex must retain high explosives capabilities to process the inventories already on site from dismantling. Therefore, the least expensive alternative is to maintain these functions at Pantex. I adamantly disagree with the statement in the draft PEIS that there are no advantages to siting high explosives at Pantex as opposed to the national labs. The capital outlay alone necessary for transfer is cost prohibitive. In addition, should future need arise for new weapons production, it will be critical to have the high explosives facilities at the weapons production assembly/dismantlement site.

As the sole DOE-authorized facility for assembly and dismantlement of nuclear weapons, Pantex has historically handled these functions in a safe and efficient manner for more than 40 years. One of the challenges faced after dismantling a significant portion of the nuclear stockpile is processing or disposal with the materials that remain. The DOE is considering several options. Once again, acknowledging cost savings considerations, Pantex could continue to serve plutonium which is already at the site and upgrade facilities for any and all storage options being considered by DOE with minimal cost and difficulty. Pantex currently sequesters more than 8,000 surplus pits and plans are being made to ship additional pits from Rocky Flats to Pantex. It makes little sense to re-create storage facilities at another site and then unnecessarily transport large amounts of plutonium across the country from Pantex. The budgetary and political costs for such a decision would be enormous. Because of these costs, Pantex also should be designated the preferred site for any disposition options and related functions. It makes budgetary and policy sense to site disposition where storage already exists. Furthermore, it makes no sense from any perspective, budget or otherwise, to site strategic storage at one site and surplus at another. Pantex should be selected for both storage functions. Pantex has the necessary safety, security, and surveillance capabilities to accommodate an expanded role with minimal costs and it is the production site closest to Los Alamos, the planned pit fabrication site.

Based upon these reasons, I respectfully urge DOE to designate Pantex as the preferred alternative site for all existing and new stockpile management and stewardship functions as well as consolidation of all plutonium storage and disposition and any related functions. Thank you for the opportunity to comment on these documents.

Sincerely,



COPY FOR YOUR
INFORMATION

2/08.03.01

TX-042

John Hirsch
Sacramento
District RI

May 23, 1996

To the United States Department of Energy
Office of Facility Materials Disposition
P.O. Box 23786
Washington, D.C. 20026-3786

As a concerned citizen as well as a Texas Legislator I am disturbed by the Programmatic
Environmental Impact Statement prepared for the Department of Energy regarding Storage and
Disposition of Weapons-Usable Fissile Materials.

While I recognize the need to assure safe, secure, long-term storage and disposition of the
significant quantities of surplus fissile materials, which include plutonium (Pu) and highly
enriched uranium (HEU), I believe this document fails to address very critical human issues.

In reviewing the alternative for the possible future of Pantex, it becomes very evident that all of
the nation's weapons-usable plutonium not active warheads would be stored at Pantex - 20,000
pits, plus much of the plutonium now at Rocky Flats Plant, CO; Hanford, WA; Los Alamos, NM;
Savannah River, SC and the Idaho National Engineering Laboratory.

Before 1989, plutonium pits were never stored at Pantex. However, with the closing of Rocky
Flats, Pantex is the interim storage site for at least 12,000 pits. Now this document proposes not
only storing plutonium pits, but other more undesirable forms of plutonium.

Once stored at Pantex, this site is being considered for a plutonium pit disassembly/conversion
facility to cut the pits and process them into metal or oxide; a plutonium conversion facility to
process other types of Pu; a facility to mix plutonium with uranium to make mixed oxide fuel
(MOX); nuclear power reactors to use the MOX fuel, plus storage of the spent fuel from the
reactors, as well as storage of all the mixed waste generated from all these processes. It is
processing of plutonium which has contributed to the national environmental degradation which
saddles our nation with a \$300 billion dollar cleanup problem.

This document states there would be few negative effects from doing any and all of those
activities at Pantex. What the document fails to address is the impact on the good reputation of
our agricultural products. Agriculture is the one industry which has consistently sustained the
Pantex for decades.

The food chain begins here in the prime agricultural farmland of the Texas Panhandle. The meat
products and cereal grains produced here are shipped throughout the world. 25% of the Nation's
beef is produced and processed here. The quality and wholesomeness of these products would
be placed in jeopardy with the siting of these processes at Pantex. Without production agriculture the
Panhandle for decades.

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09 08 04 Comment Number 1

The Proposed Alternatives for Pantex would be performed on existing DOE
land and would not disturb any prime farmland. Furthermore, because the
Proposed Alternatives would operate in full compliance with all Federal,
State, and local environmental regulations, the operations would have no
adverse impact on grain production. Thus, there would be no impact on the
agricultural economy of the Panhandle/Amarillo area.

1/09.08.04

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STATE OF TEXAS, STATE REPRESENTATIVE, AUSTIN, TX,
JOHN HIRSCHI
PAGE 2 OF 2

this part of Texas would cease to exist. When one of every four people is employed in an agriculture related job, the loss to this High Plains trade area of those jobs would create untold problems.

A second issue the document fails to address is the location of Pantex above the Ogallala aquifer, the source of groundwater for the plains of Texas and seven other Midwestern food producing states. With high explosives, chemicals, solvents, and radionuclides, Pantex has contaminated the fine grained layer of water bearing sands above the Ogallala aquifer. With the downward migration of the recharging waters how long will it be before the Ogallala itself will be contaminated?

Water and agriculture are the real wealth of the Texas Panhandle. Without them there would be no "Texas Panhandle." We cannot stand by and allow these resources to be compromised in any way. Food is the most important commodity we have - it must be protected.

Not all alternatives for siting these processes at other sites were analyzed in this document. Before choosing a preferred alternative, other options need to be considered. The siting of these missions at Pantex seems shortsighted and ill-conceived. The environmental impact in conjunction with these processes has the potential to devastate this food producing region.

The Panhandle is too valuable to be used as a plutonium storage, processing and waste facility.

Sincerely,



John Hirschi
State Representative

1/09.08.04
cont.

2/09.04.04

3/08.03.01
1/09.08.04
cont.

09 04 04 Comment Number 2

Current and future operations at Pantex are not expected to affect the water quality of the Ogallala Aquifer. However, since this aquifer is being depleted (that is, the current withdrawal is exceeding the current recharge), Pantex operations contribute to the depletion of the Ogallala Aquifer and are analyzed in the PEIS.

08 03 01 Comment Number 3

The Department of Energy acknowledges the commentor's opposition to new missions at Pantex. Decisions on storage and disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

M-249

STATE OF TEXAS, STATE SENATOR, AUSTIN, TX,
SENATOR TOM HAYWOOD
PAGE 1 OF 4



TOM HAYWOOD

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April 19, 1996

U.S. Department of Energy
Office of Reconfiguration
P.O. Box 3417
Alexandria, VA 22302

U.S. Department of Energy
Office of Fissile Materials
P.O. Box 23786
Washington, DC 20026

RE: Comment on Stockpile Stewardship and Management (SSM) and Storage and Disposition (S&D) of Weapons Usable Fissile Material Draft Programmatic Environmental Impact Statements (PEIS)

To Whom It May Concern:

As the Texas State Senator representing 36 Northern Texas Counties, including Carson County in which the Pantex facility is located, I want to thank you for the opportunity to provide comment on the United States Department of Energy's (DOE) Draft Programmatic Environmental Impact Statements (PEIS) on Stockpile Stewardship and Management (SSM) and Storage and Disposition (S&D) of Weapons Usable Fissile Materials. This letter will also serve as my comment on the Pantex Site-Wide Draft Environmental Impact Statement, as most of the issues addressed in that document are identical to the issues addressed in the SSM and S&D PEISs.

I want to stress my support for DOE's earlier decision to abandon plans to transfer assembly/disassembly function to the Nevada Test Site. Your decision to select Pantex as the preferred alternative for those functions recognizes that transfer to Nevada would have been cost prohibitive, and would not have provided adequate facilities to meet future needs. However, the failure to recognize Pantex as the preferred site for new and/or consolidated stockpile management facilities has overlooked the best site for maintaining the integrity of the United States nuclear stock-

M-046

STATE OF TEXAS, STATE SENATOR, AUSTIN, TX,
SENATOR TOM HAYWOOD
PAGE 2 OF 4

pile and attaining maximum efficiencies and cost savings.

Before addressing the two Impact Statements individually, I want to stress that any current or future Department of Energy functions at Pantex must be conducted in a safe and environmentally sound manner. While I am confident that current procedures are more than adequate, I also am adamant that any expansion at Pantex be implemented in the same fashion. The residents of the Texas Panhandle have come to expect Pantex operations to be handled in a way that does not impair their health or safety, and future plans should recognize that necessity.

Stockpile Stewardship and Management PEIS

Pantex is the most cost effective alternative for any new construction of SSM facilities. Labor costs, utility rates, and water and land availability at Pantex, as well as public and political support in the surrounding community, are more amenable to DOE needs than at any other site.

Pantex should be considered as a site for all future defense related programs to complement activities at the national laboratories, including the planned Atlas Facility and the plutonium pit fabrication site at Los Alamos National Laboratory. The location of additional defense related programs at Pantex would ensure that core technical capabilities are preserved at a location that can secure them at the most efficient cost.

While the Department of Energy makes no mention of a strategic plutonium reserve to meet future national security needs, the PEIS mentions that strategic storage should be co-located with disassembly. Pantex should clearly be the preferred site for such a mission in coordination with its management functions.

The strengths identified above supporting increased stewardship and management for Pantex also support the continuation of High Explosives (HE) fabrication at that site. Just as strategic and surplus storage should remain with disassembly, HE functions should remain co-located with assembly. The DOE SSM draft indicates that Pantex should retain HE capabilities on site to process inventories accrued from dismantling; therefore the continuation of HE functions at Pantex is clearly the least expensive alternative available to DOE. I strongly disagree with the draft PEIS statement that siting HE activities at Pantex offers no advantages over the national labs. The cost of transferring such functions is cost prohibitive, and such plans ignore the possibility of future weapon production activities, which would require a full HE capability at Pantex, and ignore the admitted necessity of continued limited HE activity at Pantex.

M-046

I believe that many factors argue for the continued operation of HE activities at Pantex, in addition to an expansion of its existing stewardship and management activities. In all of the above cases, I want to stress that the Department of Energy should insist that budgetary comparisons between Pantex and other sites are accurate and include capital, transportation, training, remediation, and other costs.

Fissile Materials (Plutonium) Storage and Disposition PEIS

As the sole Department of Energy authorized facility for assembly and disassembly of nuclear weapons, Pantex has served our country for more than 40 years. It has handled these functions in a safe and efficient manner, and should continue to do so.

As our nation continues its program of dismantling a large portion of our nuclear deterrent, one of the challenges we face is processing, storing, or disposing the fissile materials that remain. Pantex clearly offers the best solution to this vexing problem.

Acknowledging the importance of cost savings, Pantex has the existing capability to store the plutonium already at the site, and could easily expand and upgrade existing facilities to meet any or all of the storage options being considered by DOE. For the reasons identified in the SSM PEIS, the Pantex facility could accomplish this with minimal cost and difficulty.

Pantex already houses more than 8,000 surplus pits, with more pits scheduled for transfer from the Rocky Flats facility. The re-creation of storage facilities at another site, and the costs and dangers associated with transporting large amounts of plutonium across the country, makes little sense budgetarily or politically. The common sense solution to this problem is to site strategic storage and surplus functions at the same place as disassembly. Since facilities for all three functions already exist at Pantex, this common sense solution is practical, reasonable, and unarguable.

All possible factors argue for Pantex's continued and expanded role in storage of disassembled fissile material. It has the necessary safety, security, and surveillance, it has the most cost efficient operations, it has existing structures and facilities, and it is the closest production site to Los Alamos, the planned pit fabrication site.

Based on the reasons outlined in the above two comments on the draft Programmatic Environmental Impact Statements, I urge the Department of Energy to designate Pantex as the preferred alternative site for all existing and new stockpile management and stewardship functions, as well as consolidation of all plutonium storage, disposition, and related functions.

1/08 03.01

M-046

08 03 01 Comment Number 1

The Department of Energy acknowledges the commentor's support of Pantex. Decisions related to future missions at Pantex will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

STATE OF TEXAS, STATE SENATOR, AUSTIN, TX,
SENATOR TOM HAYWOOD
PAGE 4 OF 4

Thank you for the opportunity to comment on these documents.

Sincerely,



Tom Haywood

TH/jai

M-046

STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY,
KENNEWICK, WA, MAX S. POWER
PAGE 1 OF 3



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
1315 W. 4th Avenue • Kennewick, Washington 99336-6018 • (509) 735-7381

Comments on Plutonium PEIS

April 11, 1996
Presented by Max S. Power
Nuclear Waste Program

My name is Max Power. I represent the Washington State Department of Ecology, and I am presenting the agency's comments.

I want to begin by stressing three basic points, based on positions taken by Governor Lowry at the time of scoping (August 1994) and the Plutonium Roundtable (October 1995):

- **Nonproliferation:** Action to convert weapons usable plutonium to form that discourage weapons use is urgent. The United States needs to be seen to be acting forcefully and with public support to assure that this material is not available for reuse in nuclear weapons. The consequences of *not* acting are immense.
- **Equity:** All the states and regions of the country benefited from the defense provided by nuclear weapons. Now all need to share in an equitable way in the overall costs and risks of closing the circle on production of nuclear weapons material. Washington State has borne more than its share of the costs and risks in the past. We have both expertise and facilities that can help deal with plutonium and radioactive wastes, but we are only willing to play a role if others assume their fair share of the burdens.
- **Cleanup commitments.** Washington will not accept additional burdens on Hanford that detract from or delay commitments to cleanup the legacy of past contamination.

Within this context, we offer these specific comments on the PEIS:

1. We appreciate the effort USDOE has made to provide public discussion on complex issues. As selection of disposition options proceeds, DOE should use information such as that developed in the draft PEIS to inform a broader national equity dialogue. Decisions about plutonium storage and disposal must be made in the broader context of such a dialogue, dealing with treatment storage and disposal of all surplus nuclear materials and wastes.

1/01.06.00

WA-020

01 06 00 Comment Number 1

Efforts are being coordinated within DOE to assure that decisions involving related programs and sites are made on an integrated basis. For example, decisions involving Pu storage and disposition, stockpile stewardship and management, environmental restoration, and specific activities at given sites are being coordinated. DOE has initiated a national dialogue that will involve State and local governments, Indian tribes, other interested groups, and the general public to provide a forum for these groups to give input on a continuing basis regarding Proposed Actions and decisions.

2. We encourage DOE to take a conservative approach on storage options. It does not make sense to ship significant quantities of plutonium to a consolidated or collocated storage site, only to have to ship most of it again to yet another site for disposition. Near-term emphasis should be on selection of a disposition approach; long-term storage decisions can then be linked to the configuration of the disposition system.	2/08.03.01
3. Ecology comments DOE for the level of analysis and documentation in the PEIS: • a good basis for assessing generic disposition alternatives • recognizes need for additional NEPA documentation to select disposition sites • sufficient analysis to evaluate storage options once disposition path selected	3/08.03.01
4. We also emphasize the need to identify the full extent of risks, costs, technology development needs, and further requirements for public decision-making. This should be an important document contributing to public awareness and national equity dialogue. • The PEIS includes information that puts plutonium disposition in context of the legacy of weapons production. E.g. substantial information about wastes, storage facilities, etc. at candidate sites. • The PEIS makes reasonable efforts to identify emissions and waste streams from proposed storage, treatment, and disposal facilities. DOE is to be commended for using appropriate site-specific data in the conceptual analysis of the disposition options. • However, we are concerned that some materials may not be covered in this PEIS or others	4/08.00.00
	5/01.00.00
	5/01.00.00 cont.
5. Therefore, we ask DOE to clarify how—and how much of—Hanford plutonium stock is included. • Fig. 1.1.1-1 indicates 1.7 t. of Hanford Pu identified as “surplus” There is approximately another 2.1 t. in forms other than spent fuel. Some may be concentrated and become surplus; some may become waste. It is not clear that the latter category, which is explicitly beyond the scope of this PEIS, is included in other programmatic documents. • The PEIS needs more explicit discussion about the implications of non-pit forms of plutonium for the configuration of storage, treatment, and disposal options.	6/01.00.00
In conclusion, the disposal option, or combination of options, selected should: • minimize overall risk to public and worker health, and to the environment; • take account of equity among sites and regions; • not divert resources from or delay cleanup of past contamination at nuclear weapons production sites; • have a clear and reasonable path forward to develop and implement the technology; and • accommodate the plutonium metal scrap and other forms that could nonetheless be used in weapons.	7/01.00.00
	8/08.03.00
	WA-020

08 03 01 Comment Number 2

The Department of Energy acknowledges the commentor’s support for the continued storage of surplus Pu (No Action Alternative). Decisions on disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

08 03 01 Comment Number 3

Comment noted.

08 00 00 Comment Number 4

In the interest of openness and more informed decisionmaking, DOE released Technical Summary Reports to the public as soon as they became available. Cost data, along with technical and schedule data, were provided in Technical Summary Reports of both storage and disposition in the summer of 1996. Results of the nonproliferation analysis were made available in the fall of 1996. Each of these analyses along with the environmental analysis and public input will be integrated into DOE’s decisionmaking process.

01 00 00 Comment Number 5

A description of all DOE’s environmental analyses for weapons-usable fissile materials to comply with NEPA is given in Chapter I of the Final PEIS.

01 00 00 Comment Number 6

The Draft PEIS used 4 t (4.4 tons) as a bounding number for Hanford to analyze the environmental impacts. Of the 4 t (4.4 tons), 1.7 t (1.9 tons) has been declared surplus, and the remainder is largely nuclear energy program materials that are considered weapons-usable.

Weapons-usable fissile materials are not wastes, as defined in the *Solid Waste Disposal Act*, Sections 1004 and 1006. Stabilization and concentration of the Pu residue materials at various sites would be covered under separate NEPA documents, if necessary, as part of the stabilization program under EM.

01 00 00 Comment Number 7

The non-pit materials containing Pu came mainly from chemical and thermal processes that were used to separate and purify Pu. As described in Chapter 1 of the PEIS, DOE has an ongoing program to stabilize these materials to meet the requirements of its *Plutonium Vulnerability Management Plan*. The NEPA coverage for stabilization of the weapons-usable fissile materials is beyond the scope of this PEIS. Since the PEIS addresses only separated materials, the management of materials stabilization activities including any NEPA analyses that might be required is being conducted under DOE's Environmental Management Program.

08 03 00 Comment Number 8

The Department of Energy acknowledges the commentor's suggestion regarding the criteria that should be used in determining the Preferred Alternative for the storage and disposition of weapons-usable fissile materials. This criteria, along with other input, provided through the public review process, will be presented to the decisionmaker to support the ROD.

STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY,
OLYMPIA, WA, MARK WALLACE
PAGE 1 OF 7

Date: Mon, 6 May 1996

Subject: FORUM Form - incoming

serial_no = 168

MailTitle = FORUM Form - incoming

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email = M\WA461@ecy.wa.gov

cotype = public

subject =

•• The following is the text of the Author's Comment.

Spoken comments on the

Storage and Disposition of Weapons-Usable Fissile Materials
Draft Programmatic Environmental Impacts Statement

Recorded during a public meeting

Co-sponsored by the Plutonium Roundtable at

The University of Washington Center for Urban Horticulture

3501 N.E. 41st Street

Tuesday, April 30, 1996.

Hearing officer: Patricia Boiko, Physicians for Social Responsibility:

First commentor:

My name is Tom Carpenter.

I'm with the Government Accountability Project.

My address is:

1402 Third Avenue, Suite 1214

Seattle, Washington 98101

(206) 292-2850

E-006

STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY,
OLYMPIA, WA, MARK WALLACE
PAGE 2 OF 7

TOM CARPENTER: Comment that I would like to give to the Department of Energy is that burning plutonium in the reactors as an option is not a good option, in my opinion, because it creates an additional waste stream. And it raises safety issues, and it should be rejected as an option. That the tradeoff of destroying a small amount of the plutonium is not worth it, but creating a whole new waste stream and a additional safety hazard.	1/08.03.01	08 03 01 Comment Number 1 The Department of Energy acknowledges the commentor's opposition to the Reactor Alternatives. However, NEPA requires that DOE look at all reasonable alternatives and, therefore, reactor burning must be considered. Decisions on the disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.
It appears from the information available that the immobilization technology is the preferred alternative. I have very, very strong concerns about the ability -- the technical ability and the managerial ability -- of the current structures to be able to handle an undertaking of this sort, especially within the Department of Energy. And those are my key concerns about -- they're technical in nature, and they're managerial in nature, as well -- is that there is, overall, a lack of oversight and a lack of regulatory integrity. I guess. And it is a concern that is, I think, kind of overlooked in the whole process. And there's symptoms of that throughout the management, for instance, of the Hanford Site, or the Pantex Plant, where important safety issues are overlooked, or ignored, or buried. That concerns me greatly when it comes to an issue like plutonium disposition. So a larger look at this, a national dialogue of the type that Tim Takano was suggesting tonight, I think is urgently needed.	2/05.00.08	05 00 08 Comment Number 2 The Department of Energy is committed to safe and effective management of all of its Pu-related missions.
There is way too much going on to make an intelligent decision without looking at the whole picture. I agree with the Physicians for Social Responsibility that it is hard to follow all the EISs and PEISs. As a professional activist, I don't keep track of them all. I have no idea what's going on with some of those. That, of course, concerns me greatly. So a national dialogue is greatly needed. And finally, I would like to agree that we need more information, more analysis about what, exactly, the impacts would be from immobilization technologies. I feel that there is not enough information to go on to make an intelligent decision. And so I would like to see the Department of Energy step back, do a better job, do more stakeholder participation, so that the right decision is made, since the impacts are so far reaching and so potentially severe.	3/08.02.00	08 02 00 Comment Number 3 The Department of Energy acknowledges the commentor's support for coordination and increased understanding on the decisions to be made on the storage and disposition of weapons-usable fissile materials. However, the National Dialogue Project is beyond the scope of this PEIS.
Second commentor: My name is Rosemary E. Brodie My address is 3842 N.E. 90th St. (Seattle, WA 98115-3745) I'm a co-chair of Seattle Women Act for Peace ROSEMARY BRODIE: First of all, I would like to give a little background in	E-006	

08 02 00 Comment Number 4
Comment noted.

01 06 00 Comment Number 5
The President's Nonproliferation Policy says the United States will not recycle Pu. Burning weapons Pu in reactors does not utilize the recycling process because the Pu in the spent fuel from this will not be extracted for reuse. The Reactor Alternatives will utilize a once-through fuel cycle. Spent fuel will be disposed of with other commercial reactor spent fuel. This is not inconsistent with U.S. policy since no Pu is being recycled.

4/08.02.00

terms of the Plutonium Disposition PEIS issues and concerns. The U.S. Department of Energy is conducting a programmatic environmental impact statement to determine what to do with the surplus plutonium taken from dismantled weapons. DOE is considering alternatives for the storage -- the storage alternatives are not addressed in this statement, here, but -- and disposition of plutonium and has agreed to take comment and discuss the PEIS at the Plutonium Roundtable in Seattle on April 30th.

The good news is that plutonium is being removed from weapons. The process of disarmament has begun. The bad news is that keeping plutonium out of weapons and the environment is a formidable task. If we are going to meet our obligations under the NPT treaty to work towards disarmament, the plutonium stockpile from dismantled weapons will grow, so we must analyze how to effectively deal with plutonium. Unfortunately, this PEIS so far, is an inadequate analysis that does not facilitate informed public participation and open discussion principles. DOE is also considering alternatives that exacerbate plutonium disposition problems. It is very important that everyone concerned about nuclear proliferation, Hanford, or the environment participate in this process.

The problems with MOX:

The use of plutonium in nuclear reactors is one of the disposition alternatives considered in the PEIS. First, the plutonium would be blended into a mixed plutonium dioxide and uranium dioxide, or MOX, and then reactors could use the MOX to generate electricity. This alternative is strongly opposed by many people concerned with nuclear weapons material proliferation. Plutonium in MOX can still be diverted into nuclear weapons. The International Atomic Energy Association consideration MOX to be of limited use in nuclear weapons. This means that in the storage and transport and use in reactors, MOX must be secured and handled as a weapons material. Using MOX in reactors is against stated U.S. non-proliferation policy. President Clinton has stated that, "The United States does not encourage the civil use of plutonium, and accordingly, does not, itself, engage in plutonium reprocessing for either nuclear power, or nuclear explosive purposes." This is September 1993. Developing MOX would drastically alter this policy and encourage other countries to further develop plutonium use in reactors.

The United States has no facility to develop a MOX fuel that could be run in a commercial reactor. A MOX fabrication facility would have to be built, or a current facility adapted. This could be done at Hanford at a cost as yet undisclosed. Potentially, plutonium from around the country would be brought to a Hanford MOX fabrication facility. Also, there is currently no U.S. MOX fabrication facility. The PEIS assumes that if an existing light water reactor in the United States were to use MOX fuel, then a timely supply -- in quotes

5/01.06.00

E-006

-- of MOX fuel would have to be sought, while a U.S. fabrication facility is developed. This means that the DOE would send United States' plutonium to Europe, where MOX fuel would be developed, and then send it back to the United States' reactors. Because MOX is a direct-use weapons grade fuel, it's use in commercial reactors would turn many utility nuclear energy plants into de facto weapons facilities. Increased security to prevent diversion of plutonium would be required

5/01.06.00
cont.

High level waste generated from MOX is likely to be a serious problem. Commercial spent fuel generated from MOX reactors is supposed to go to a waste repository. The development of a repository has been fraught with difficulty. There is no guarantee that a suitable repository will exist for even more high level waste generated from MOX reactors. Simply stating that it will go to a repository which does not yet exist is not good enough. Hanford, as well as other sites in the nuclear weapons complex, may end up with this waste if a repository is not available. One alternative in the PEIS is to use Canadian CANDU reactors -- that's an acronym. According to the PEIS, Canada would then be responsible for the waste generated from the reactors. This encourages international commerce in plutonium, as does any alternative calling for plutonium, or MOX shipment, to and from Europe. It may also set a dangerous precedent for the United States to give up control of weapons material to other countries. And it brings up a question of fairness. Why should Canadian citizens take plutonium and waste that they did not develop?

Instead of MOX, plutonium should be declared a waste and immobilization alternatives developed. We should declare plutonium a waste and insure that it is not used in weapons, or in reactors. By doing this in the United States, we can also take a leadership role in preventing an international industry in commerce in plutonium that would be increasingly difficult to control. Immobilization technologies should be vigorously pursued because these technologies provide the greatest ability to isolate plutonium from the environment and prevent the proliferation of weapons material. Immobilization technologies should be developed and shared with other countries. Meanwhile, storage of plutonium should maintain plutonium so as to prevent harm to the environment and diversion into weapons. This means that risks involved in transport should be avoided.

6/08.03.01

7/08.03.01

Public participation and openness in the PEIS process:
The PEIS lacks credibility because DOE has not furthered informed public participation in the process, or adhered to basic principles of openness. DOE secretively solicited the nuclear industry in pursuit of MOX in December 1995.

8/08.02.00

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08 03 01 Comment Number 6

The Department of Energy acknowledges the commentor's support for the Immobilization Alternative. Decisions on disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

08 03 01 Comment Number 7

The Department of Energy acknowledges the commentor's support for the continued storage of surplus Pu (No Action Alternative). Decisions on disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

08 02 00 Comment Number 8

The Department of Energy's request for "Expressions of Interest" was announced in the *Commerce Business Daily* which is the normal public process in potential contractual matters. The meeting held to explain DOE's position was open to the public and attended by several public interest groups. This request for information from the commercial nuclear power utilities was based upon a need by DOE to determine if the Existing LWR Alternatives were chosen, would any utility be willing to do the work. This was of concern because of the traditional separation between the commercial utilities and nuclear contractor involved in national security work. This same situation is not true for the potential contractors who would be solicited to implement the Immobilization and Borehole Alternatives, if chosen.

STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY,
OLYMPIA, WA, MARK WALLACE
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DOE included a request for, excuse me, in December 1995, DOE included a request for expressions of interest for tritium production, a solicitation in pursuit of commercial reactors that would like to use MOX. This action, taken between the plutonium disposition PEIS scoping hearings and the draft PEIS was done without notice to the public, or incorporation into the PEIS. Not until March 29, 1996, were expressions of interest, known as FOIs, released. This solicitation indicates a substantial furtherance of MOX despite the fact that DOE has not chosen a preferred alternative. No EOI process has been followed for any of the other disposition alternatives. Among EOI responses from utilities interested in MOX was one from the Washington Public Power Systems, is it Supply System, known as Whoops, to use MOX at the WNP 2 reactor sited at Hanford. DOE is not including cost studies and non-proliferation studies for public scrutiny along with the PEIS. Cost studies and non-proliferation studies are going on outside of this PEIS process. Since these studies will affect the outcome of the PEIS, they must be made public, publicly available so that citizens can make informed comments on the PEIS. Given that the need for action on plutonium disposition is based upon proliferation concerns, there is an appalling lack of consideration of proliferation impacts throughout this PEIS. Also, a full cost analysis of MOX, including a cleanup, clean-up costs of a MOX fabrication facility and MOX reactor sites, and the costs of a suitable repository should be done and available public comment, as should cost estimates for all other alternatives. DOE should extend the comment period and hold hearings in additional locations. Additional time is needed for the public to fully consider the PEIS, especially with additional cost and non-proliferation information. Hearings ought to be held in additional locations. For example, actions at Hanford should require hearings throughout the Northwest, Seattle, Portland, Spokane, etc. Now that some of the potential reactor sites for MOX are known, hearings in those areas should be considered. Thank you. Third commenter: Barbara Zepeda Live at: 1937 25th East Seattle, 98112 BARBARA ZEPEDA: And I'm very interested in the fact that we are supposedly cooperating with IAEA at Hanford, but we aren't even funding our UN obligations, so how can the International Atomic Energy Agency have the money to do the	8/08.02.00 cont.
9/08.00.00	10/01.06.00
9/08.00.00 cont.	11/08.01.00
12/08.02.00	13/15.00.00
E-006	

Comment Number 9

08 00 00

In the interest of openness and more informed decisionmaking, DOE released Technical Summary Reports to the public as soon as they became available. Cost data, along with technical and schedule data, was provided in Technical Summary Reports of both storage and disposition in the summer of 1996. Results of the nonproliferation analysis were made available in the fall of 1996. Each of these analyses, along with the environmental analysis, and public input will be integrated into DOE's decisionmaking process.

Comment Number 10

01 06 00

The purpose of the Proposed Action is, in part, to establish the technical and program infrastructure that will enable the United States to take unilateral action or negotiate reciprocal actions with other nations for the disposition of surplus weapons-usable Pu. This PEIS addresses the environmental impacts of the reasonable alternatives for DOE's Proposed Action. Analyses of the cost, schedule, technical, and Nonproliferation Policy impacts are described in separate documents to support DOE's ROD. These documents were made available for public review beginning in late July 1996. DOE also conducted a series of public meetings, prior to the issuance of the Final PEIS, to discuss the analysis of the Nonproliferation Policy as it relates to the proposed action and alternatives.

Comment Number 11

08 01 00

At the request of several organizations and individuals, the public comment period was extended to a total of 92 days.

Comment Number 12

08 02 00

To obtain public comments on the Draft PEIS, DOE held meetings near each of the potentially affected sites and a national meeting in Washington, DC. DOE also participated in meetings, open to the public, sponsored by different organizations at which the sponsor collected public comments which were forwarded to DOE. DOE created and advertised a number of methods for submitting comments for members of the public who could not attend a

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public meeting. These methods included fax, oral comments using a toll-free telephone number, mail, and the Internet.

15 00 00 Comment Number 13

Comment noted.

01 04 00 Comment Number 14

One of the screening criteria used for selection of reasonable alternatives to be analyzed in the PEIS is technical feasibility. To the extent possible, DOE will use existing and proven technologies for construction and operation of the storage and disposition facilities in the Proposed Action. Should new technologies be chosen for Pu disposition, DOE will demonstrate them prior to their implementation.

13/15.00.00
cont.

monitoring that it should? We could set an example by full funding of the United Nations, and the IAEA should be an example of not the United States pushing international agencies around, but actually strengthening them. We have a history of private corporations making money at Hanford by making mistakes. We can't afford this in the future. And the mere fact that they brought up the suggestion that private corporations would be able to take the fuel and use it for a fast breeder reactor to produce electricity is just outrageous. Seems as though some corporations are refusing to pick up any obligation they have to the WPPSS bonds that are still outstanding and costing Seattle City Light hundreds of millions of dollars every year. I know the City of Seattle exists to underwrite nuclear power and municipal bonds for the whole Northwest, but it's an outrageous use of our taxing and our bonding authority, and it's an outrageous betrayal of the people who built City Light to serve the people rather than the multinational corporations that make money by impoverishing the rest of the world.

Mark Wallace, Washington Department of Ecology is now the hearing officer

Fourth commentor:

My name is: Sidney Stock S-I-O-C-K,
address: 6023 Hazelwood Lane South East
Bellevue, Washington 98006-2615

SIDNEY STOCK: And I think it's unconscionable that the DOE would propose to limit the public response to May 7 when such a tiny, tiny fraction of the U.S. public has any knowledge or information -- I, as a semi-informed person following this much more closely than the average person, but not highly informed, know next to nothing about this. I guess that will do it.

11/08.01.00
cont.

Mark Wallace: Can I take that as an official request for an extension of the comment period?

Sidney Stock: It sure is.

Fifth commentor:

My name is: Joshua Speiser, S-P-as in Paul -E-I-S-E-R
I live at: 4039 Ninth Avenue North East
Seattle, Washington 98105

JOSHUA SPEISER: And I'd simply like to say that I believe that the Programmatic Environmental Impact Statement, as written right now, is

14/01.04.00

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incomplete, the time period should be extended. there should be much more research done on all the options. Further more, I would demand that the MOX option not be pursued. It's a wasteful option, both economically; furthermore, it will create much more nuclear waste than we're currently dealing with in many forms. Why complicate a problem, which is already complicated. In addition, I would suggest when the Department (inaudible word) environmental safety and health issues that they try to look to those officials and scientists who do not have a vested interest, who are not working for industry, or with industry, so they can get a clearer point of view.

Thank you very much.

End of spoken comments

END comment

14/01.04.00
cont.
1/08.03.01
cont.

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OLYMPIA, WA, MARY RIVELAND
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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
P.O. Box 47600 • Olympia, Washington 98504-7600
(360) 407-4000 • TDD Only (hearing impaired) (360) 407-4006

June 7, 1996

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

Dear Sir or Madam:

Thank you for the opportunity to comment on the draft Programmatic Environmental Impact Statement (PEIS) for the Storage and Disposition of Weapons-Usable Fissile Materials (DOE/EIS-0229-D). We have reviewed the document and have the following comments. Our general comments are essentially the same as those presented at the Richland hearing, April 11, 1996, by Max Power, on behalf of Washington Department of Ecology (Ecology).

Governor Mike Lowry set forth five key points during scoping for the PEIS and in the Plutonium Roundtable Forum held in Seattle, October 6, 1995. The five key points were as follows:

- **Nonproliferation** - Action to convert weapons usable plutonium to forms that discourage weapons use is urgent. The United States needs to be seen as acting forcefully and with public support to assure that this material is not available for reuse in nuclear weapons. The consequences of not acting are immense.
- **Equity** - All the states and regions of the country benefited from the defense provided by nuclear weapons. Now all need to take an equitable share in the overall costs and risks of closing the circle on production of nuclear weapons material. Washington State has borne more than its share of the costs and risks in the past. We have both expertise and facilities that can help deal with plutonium and radioactive wastes, but we are only willing to play a role if others assume their fair share of the burdens.
- **Cleanups Commitments** - Washington will not accept additional burdens on Hanford that detract from commitments made or delay the cleanup of the legacy of past contamination.
- **Protection of Public Health and Safety** - Any action to deal with plutonium must protect the peoples' safety and security as well as the environment, and must minimize risks to workers and the public.

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- Public Involvement. It is critical to involve the public in examining all alternatives and coming to conclusions about choices and the tradeoffs involved. Public trust and confidence in the decisions made is imperative if we are to provide the strong international leadership needed to permanently remove these materials from weapons use.

Our general comments on the PEIS reflect these principles:

- We appreciate the effort the United States Department of Energy (USDOE) has made to provide public discussion on complex issues. A selection of disposition options proceeds, USDOE should use information such as that developed in the draft PEIS to contribute to a broader national equity dialogue. Decisions about plutonium storage and disposal must be made in the broader context of such a dialogue, dealing with the treatment, storage, and disposal of all surplus nuclear material and wastes.
- We encourage USDOE to take a conservative approach on storage options. It does not make sense to ship significant quantities of plutonium to a consolidated or collocated storage site, only to have to ship it again to yet another site for disposition. Near-term emphasis should be on selection of a disposition approach, long-term storage decisions can then be linked to the configuration of the disposition system.
- Ecology commends USDOE for the level of analysis and documentation in the PEIS, which:
 - provides a good basis for assessing generic disposition alternatives;
 - recognizes the need for additional NEPA documentation to select disposition alternatives, and
 - includes sufficient analysis to evaluate storage options once a disposition path is selected.
- We also emphasize the need to identify the full extent of risks, costs, and technological development needs. Some of this information will be covered in separate documents, which must be available to enable the public to have a proper role in decision-making. All this information will contribute to public awareness and to a meaningful national equity dialogue.
 - The PEIS includes information that puts plutonium disposition in context of the weapons production legacy, e.g., substantial information about wastes, storage facilities, etc. at candidate sites.
 - The PEIS makes reasonable efforts to identify the emissions and waste streams from proposed storage, treatment, and disposal facilities. USDOE is to be commended for using appropriate site-specific data in the conceptual analysis of the disposition options.
 - However, we are concerned that some materials may not be covered in this PEIS or other EIS's.

1/08.02.00

2/01.04.00

3/01.01.00

4/11.01.08

F-065

08 02 00 Comment Number 1

Comment noted.

01 04 00 Comment Number 2

Efforts are being coordinated within DOE to ensure that decisions involving related programs and sites are made on an integrated basis. For example, decisions involving Pu storage and disposition, stockpile stewardship and management, environmental restoration and specific activities at given sites are being coordinated. DOE has initiated a national dialogue that will involve State and local governments, Indian tribes, other interest groups, and the general public to provide input on a continuing basis regarding proposed actions and decisions.

01 01 00 Comment Number 3

Comment noted. The PEIS analyzes the environmental impacts of various storage and disposition alternatives. Analyses of the cost, schedule, policy, and technology impacts are also being done to support DOE's ROD. DOE's decision will address the overall strategy and path forward for storage and disposition of the various weapons-usable fissile materials.

11 01 08 Comment Number 4

A description of DOE's environmental analyses for weapons-usable fissile materials to comply with NEPA is given in Chapter 1 of the PEIS.

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5. Therefore, we ask USDOE to clarify how--and how much of--Hanford plutonium stock is included.
- Fig. 1.1.1-1 indicates 1.7 metric tons of Hanford plutonium identified as "surplus." There is approximately another 2.1 metric tons in forms other than spent fuel. Some may be concentrated and become surplus, some may become waste. It is not clear if the latter category, which is explicitly beyond the scope of this PEIS, is included in other programmatic documents.
 - The PEIS also needs more explicit discussion about the implications of non-pit forms of plutonium for the configuration of storage, treatment, and disposal options.

In conclusion, the disposal option, or combination of options, selected should:

- minimize overall risk to public and worker health, and to the environment;
- take account of equity among sites and regions;
- not divert resources from or delay cleanup of past contamination at nuclear weapons production sites;
- have a clear and reasonable path forward for the development and implementation of technology; and
- accommodate the plutonium metal scrap and other forms that could nonetheless be used in weapons.

Our specific comments relate especially to points 4 and 5, above. There is considerable need for USDOE to clarify what materials are included in the scope of the PEIS, how these materials will be handled as they come into the "surplus" stock to be stored and disposed, and what regulatory regime will govern their transition.

Regulatory Applicability:

Washington State Department of Ecology has concluded that materials which contain Special Nuclear Material (SNM) may be regulated under the Washington Hazardous Waste Management Act (HWMA), under certain conditions. Ecology, therefore, requests further clarification as to the regulations that will govern surplus plutonium and plutonium residues, given that they are no longer needed for their original purposes and have no clearly identified future use.

1. Volume I, Section 1.1.1, and Volume III, Appendix J: USDOE is proposing to immobilize (thermally treat) plutonium (Pu) residues (less than 50% by weight) and transfer those residues to the Hanford Site Solid Waste Management Facilities. The PEIS does not describe the stabilization, concentration, treatment, and storage of Pu residues in sufficient detail to show how USDOE will comply with the state's HWMA. The PEIS should more fully describe USDOE's regulatory approach for Pu residues that are considered waste.

01 00 00 Comment Number 5

The Draft PEIS used 4 t (4.4 tons) as a bounding number for Hanford to analyze the environmental impacts. Of the 4 t (4.4 tons), 1.7 t (1.9 tons) has been declared surplus, and the remainder is largely nuclear energy program materials that are considered weapons-usable.

Weapons-usable fissile materials are not wastes, as defined in the *Solid Waste Disposal Act*, Sections 1004 and 1006. Stabilization and concentration of the Pu residue materials at various sites would be covered under separate NEPA documents, if necessary, as part of the stabilization program under EM.

01 04 00 Comment Number 6

Comment noted.

09 11 01 Comment Number 7

The stabilization of Pu residues is not within the scope of this PEIS. As noted in Section 1.1.1 of the Draft PEIS, the stabilization, concentration, and storage of Pu residues, as well as disposal of non-weapons-usable waste, is covered in other existing and future environmental documents, as appropriate. These include the *Interim Storage of Plutonium at the Rocky Flats Environmental Technology Site Environmental Impact Statement*, the *Interim Management of Nuclear Materials Environmental Impact Statement* (Savannah River Site), the *Plutonium Finishing Plant Stabilization Environmental Impact Statement* (Hanford), the *Solid Residues Treatment, Repackaging, and Storage at the Rocky Flats Environmental Technology Site Environmental Assessment*, and the *Waste Management Programmatic Environmental Impact Statement* (RFETS residues only).

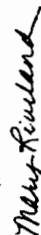
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OLYMPIA, WA, MARY RIVELAND
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2. Volume 1, Section 2.2.1, Hanford Site: The PEIS should discuss the status of the standard being developed for materials that are less than 50% by weight. It is important to know whether USDOE intends to claim the Atomic Energy Act (AEA) exemption for SNM to exempt this material from being designated as a mixed waste and therefore from external regulation.
 3. Volume 1, Section 2.2.1, Hanford Site: Further discussion is needed of the Hanford criteria for stabilization of Pu residues and how it differs from the USDOE standard *Criteria for Safe Storage of Pu Metals and Oxides* (DOE-STD-3013-94).
 4. Volume 1, Section 2.2.1, Hanford Site: No date is given for completion and review of the draft document for *Criteria for Interim Safe Storage of Pu-Bearing Solid Materials* for materials with less than 50% by weight of Pu.
- Stabilization, Current Storage and Future Interim Storage of Pu Residues:**
- In the near term, the highest environmental and public/worker exposure risks related to this proposal would result from stabilizing unstable forms of plutonium bearing residues in various facilities throughout the USDOE complex.
1. It is not specifically clear in the PEIS as to how and when these risks are to be addressed under each option. Please provide upgrade costs and schedules for modifications of existing facilities.
 2. The Defense Nuclear Facilities Safety Board's (DNFSB) Recommendation 94-1, outlined an aggressive schedule to stabilize these materials in eight years throughout the USDOE complex. The PEIS should address the interaction of the costs and effort needed to prepare and upgrade existing facilities and infrastructure to meet DNFSB 94-1 and additional storage and disposition actions delineated in the PEIS.
 3. The PEIS does not fully address the risks to the public, workers, and the environment resulting from the dangerous condition many existing facilities, such as the Plutonium Finishing Plant, are in.
- If you have any questions, please call Mr. Max Power with our Nuclear Waste Program at (360) 407-7118, or Mr. Tom Tobb at (509) 736-3020.

Sincerely,



Mary Riveland
Director

F-065

09 11 01 Comment Number 8

The Criteria for Interim Storage of material with less than 50-percent Pu was completed in November 1995. This is not a standard, like DOE-SOD-3013-94, which applies to material with greater than 50-percent Pu, but is a criteria for the containers to be used for interim storage. Since the material is not considered weapons-usable, it is not within the scope of this PEIS. It is not waste as it does not meet any of the radioactive waste definitions cited in Section E.1.1 of the Draft PEIS or in 40 CFR 261.4a(4) "Source, special nuclear or by-product material as defined by the AEA, as amended, 42 U.S.C. 2011 et. seq." is not solid waste. DOE/EM is currently conducting a number of trade studies to determine the best course of action for the material that does not fall within the scope of this PEIS and does not meet one of the radioactive waste definitions.

11 01 01 Comment Number 9

The stabilization of various nuclear materials at DOE sites is under DOE's Environmental Management Program and covered by separate NEPA documents.

11 01 01 Comment Number 10

The Criteria for Interim Storage was completed in November 1995 as an addendum to the *DOE Implementation Plan for DNFSB Recommendation 94-1*. Unlike the long-term storage standard, DOE-STD-3013-94, this is not a DOE standard, but criteria for the containers to be used for interim storage of Pu. The criteria applies to the interim storage of material both above and below 50-percent Pu.

07 01 00 Comment Number 11

Cost data, along with technical and schedule data, was provided in Technical Summary Reports of both storage and disposition beginning in late July 1996.

01 00 00 Comment Number 12

The PFP is included in the PEIS under the No Action Alternative for storage. Hanford has an on-going clean-up program for this facility under EM, and the activities are described in the PFP EIS.

STATE OF WASHINGTON, STATE REPRESENTATIVE,
RICHLAND, WA, SHIRLEY HANKINS
PAGE 1 OF 1

Prepared Comments
Shirley Hankins
Washington State Representative
8th District
April 11, 1996
Richland, Washington

I'd like to thank the Department of Energy for providing this opportunity to deliver comments on the Programmatic Environmental Impact Statement for Storage and Disposition of Weapons-Usable Fissile Materials. Clearly, this is an issue of great magnitude for all citizens of the United States, and especially for residents of the Tri-Cities because of the potential we have for direct involvement with this program.

I'm pleased to be able to provide comments on the management of material that previously had one use, that of nuclear weapons and weapons capability. What a positive course of action for both the United States, the Russian, and other former Soviet Union governments to put this material to a productive use.

With respect to the three options the Department of Energy is analyzing for disposition of surplus plutonium, I would urge the Department to select in whole or part the Reactor Irradiation option.

- ☐ This option, which is heavily endorsed by the National Academy of Sciences, offers the most timely method for rendering this material non-usable to terrorist or other threatening countries or organizations.
- ☐ Disposal of the surplus plutonium, through the form of Mixed Oxide Fuel, is a proven technology, already used in many reactors throughout the world.
- ☐ The use of MOX fuel in U.S. nuclear reactors would allow for the generation of valuable electricity. Imagine, actually putting material once packaged into nuclear weapons to productive use for generating electricity. Government regulation of MOX fuel use would ensure the material is used in a way so that public health and safety are optimally protected.
- ☐ Through the DOE's Hanford Site, and the Washington Public Power Supply System, we have the needed infrastructure and capability to fabricate and consume MOX fuel right here, offering the Department of Energy a timely, comprehensive, and efficient manner in which to dispose of surplus plutonium.

I hope the Department of Energy will give serious thought to the reactor irradiation option, and when it comes time to deliver the Record of Decision, that this option will be selected.

Thank you.

08 03 01

Comment Number 1

The Department of Energy acknowledges the commentator's support for Pu disposition in reactors. Decisions on disposition will be made based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

1/08.03.01

WA-017

STATE OF WASHINGTON, STATE SENATOR, OLYMPIA, WA,
PATRICIA S. HALE
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Washington State Senate

Senator Patricia S. Hale

8th Legislative District

Olympia Office
106 State Capitol Building
P.O. Box 40482
Olympia, WA 98504-0482
(360) 786-7014

Committees:
International Institutions, N. American
Governmental Operations
Labor, Commerce & Trade

April 12, 1996

The Honorable Hazel O'Leary
Secretary of Energy
Forrestal Building, MS 7A-257
1000 Independence Avenue, SW
Washington, D.C. 20585

Dear Secretary O'Leary:

I believe the Washington Public Power Supply System's initiative to serve as a key participant in the Department of Energy's plutonium disposition mission has considerable merit. The Supply System's concept of using its operating commercial nuclear plant, WNP-2, located at the Hanford Site, to dispose of stockpiled plutonium, offers advantages that far outweigh other disposal options being considered.

The Supply System concept, along with use of the Fuels and Materials Examination Facility (FMEF) for making mixed oxide fuel, incorporates maximum safety by centralizing operations on the Hanford Site, thereby resolving transportation, fuel-handling and safeguards issues. It also offers a cost-effective and timely approach to disposition by utilizing the existing infrastructure that already exists at the Hanford Site. Better administration to offset costs, by streamlining the Supply System's ability to couple proven technology with commercial plant operating experience.

The concept is one that fully supports our national non-proliferation policy and is consistent with the nation's long-standing policy against use of civilian nuclear power reactors to produce nuclear weapons.

The Supply System has taken a leadership role in offering the federal government a feasible and technically sound solution to this problem. It is imperative that the WNP-2 concept be provided every consideration in dealing with this important aspect of the nuclear legacy.

I am confident that the Supply System's concept, if implemented, would afford the United States a safe, cost-effective and timely opportunity to take action toward solving the global plutonium disposition challenge.

Sincerely,

Patricia S. Hale
Senator Patricia S. Hale

1/08.03.01

2/06.01.01

M-239

08 03 01 Comment Number 1

The Department of Energy acknowledges the commentor's support for new missions at Hanford and the potential utilization of the Washington Nuclear Power (WNP)-2 for Pu disposition. Decisions on storage and disposition of weapon-usable fissile materials will be based on environmental analyses, technical and economic studies, national policy considerations, and public input.

06 01 01 Comment Number 2

The FMEF is considered for use as a long-term storage facility for Pu, and the impacts are included in Section 4.2.1 of the PEIS. For the production of MOX fuel, a generic facility was considered for all six DOE sites. At Hanford, the MOX fuel fabrication facility would be located in the 200-Area adjacent to 200-East. The utilization of the FMEF would be a variant for MOX fuel fabrication at Hanford, which is bounded by the environmental analysis for the MOX fuel fabrication facility located in the 200-Area. Table 2.4-1 of the PEIS provides a brief description for variants which includes "Modification/Completion of existing facilities for MOX fabrication." The storage options for Hanford also include constructing a new facility. Utilization of FMEF for the Upgrade Alternative would not preclude its use to also support Pu disposition activities for either Reactor or Immobilization Alternatives.

08 03 01 Comment Number 1

The Department of Energy acknowledges the commentor's opposition to new missions at Pantex. Decisions on storage and disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

Comment ID: P0039
Date Received: May 8, 1996
Name: Father Jerry Stein
Address: Box 128
Happy, TX
Phone: (806) 558-2871

Transcription:

I want to say very strongly that I disagree that we should have plutonium storage here at Pantex. This is really wrong for the area. It's really wrong for the country. We've got to be making peace with the whole world and not more dangerous material that could make other countries want to build them too, and this agricultural area - an area that water and food - reputation needs to be kept high. Plus needs to be kept clean - all those things. Far into the future, we need to think of the future and future generations of our children and not give them waste - long-term waste - to deal with in an area that's going to be very difficult to do it with winds and strong storms and everything else here. This is not the place and no place needs to have any more of it, so we've got to stop making the stuff. Please for the sake of future generations for the good honor and reputation of our own country, let's stop this now. Thank you.

1/08.03.01

P-039

STOCK, SIDNEY, BELLEVUE, WA
PAGE 1 OF 1

08 03 01 Comment Number 1

The Department of Energy acknowledges the commentor's support for the Vitrification Alternative. Decisions on disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

08 03 01 Comment Number 2

The Department of Energy acknowledges the commentor's opposition to the Reactor Alternatives. However, NEPA requires that DOE look at all reasonable alternatives, and, therefore, reactor burning must be considered. Decisions on the disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

Storage and Disposition of Weapons-Usable Fissile Materials Draft Programmatic
Environmental Impact Statement (PEIS) Public Comment Form

Name (optional): SIDNEY STOCK
Address (optional): BELLEVUE, WA 98008-2617

Please write down your comments and drop this form in the marked boxes before you leave tonight. These forms will be submitted to the Department of Energy as part of the formal comment on this PEIS. If you are unable to complete this form tonight, written comments can be mailed to:

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

or, you can call this toll-free number to leave comments by phone: 1-800-420-5156. Comments must be submitted by July 1, 1994.

The Department of Energy has identified three types of technologies as options for disposing of weapons-usable fissile materials. The Department has also considered a "no action alternative" which would result in long-term storage of these materials. Please write down your comments on the following three types of options for disposal and the storage option.

1. Materials Immobilization/Vitrification - Immobilize fissile materials by mixing them with glass, glass bonded zirconia, or ceramics.

1/08.03.01

APPEARS MOST FEASIBLE - NEED MORE INFO.

2. Deep borehole disposal - Materials would be disposed in boreholes at least 2.5 miles deep. In geologically stable formations, fissile materials could be deposited directly into the deep borehole, or materials could be immobilized first, and then deposited into the deep borehole.

3. Reactor Options - Surplus plutonium/highly enriched uranium would be made into MOX fuel for use in nuclear reactors, destroying by fission a major portion of the weapons grade materials.

2/08.03.01

ARE YOU HAVING NO ECONOMIC INTEREST GROUPS SUPPORT IT.

4. Storage Options - USDOE would continue existing storage practices for weapons-usable fissile materials at current locations and/or consolidate that storage at one or more of the designated sites.

M-233

SZEMPRUCH, RICH, KENNEWICK, WA
PAGE 1 OF 1

08 01 00 Comment Number 1

At the request of several organizations and individuals, the public comment period was extended to a total of 92 days.

Date: Thu, 2 May 1996
Subject: FORUM Form - incoming
serial_no = 166
MailTitle = FORUM Form - incoming
name = Rich Szempruch
title =
company =
addr1 = 5513 West Sixth Avenue
addr2 =
city = Kennewick
state = WA
zip = 99336
phone = 509 783-3080
fax =
email = richszem@aol.com
ctype = public
subject = Request for Extension of Comment Period

** The following is the text of the Author's Comment.

Based on issues and concerns raised at recent public comments meetings on the PEIS, I too have to voice my opinion that the public comment period is too short. I request that a minimum of 30 days be added to the comment period.

1/08.01.00

Thank you,
Rich Szempruch
END comment

** The following is the space reserved for an Official Reply. If you
** do not wish to reply to this comment then do not change it.
** If you wish to leave a comment then enter it here in the REPLY
** area

End Reply

E-002

SZEMPRUCH, RICH, KENNEWICK, WA
PAGE 1 OF 2

Comment on Storage and Disposition EIS:

The scope as defined in the EIS is confusing and appears incomplete. Correcting this may allow individuals to better judge the potential impacts to themselves and potentially involved sites and communities so that intent of the NEPA can be fulfilled. To that end I suggest information regarding the quantities and locations of plutonium addressed in the EIS (and perhaps more important that excluded from this EIS) be included in the EIS, particularly the Summary, and the document be revised to correctly address the scope.

The attached figure is a suggested way to accomplish this if the quantities are added to it and scope definitions keyed to the figure. Information on quantities and locations were provided in documents available at public meetings. As a minimum, the lower right hand boxes (locations and surplus, programmatic, and strategic reserve quantities) need to be provided. A cursory examination of this figure shows that LANL has significant plutonium but is not addressed in this EIS even in the No Action alternative. Other flaws in scope logic and completeness exist in this document and are not included in other EIS efforts of the DOE.

Thank you for consideration of the matter. Should you desire clarification of these comments please feel free to contact me.

Rich Szempruch
3513 West Sixth Avenue
Kennewick, WA 99336
(509) 783-3080

1/01.00.00

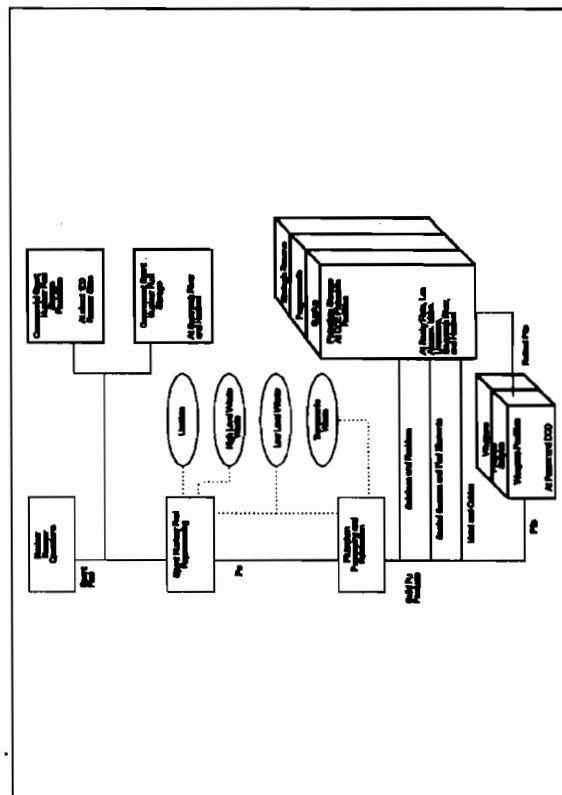
01 00 00

Comment Number 1

Information on the quantities of some weapons-usable fissile materials at various DOE sites is classified. To overcome this problem, the PEIS analyses assumed that the design of storage facilities would accommodate all existing weapons-usable fissile materials. Similarly, the design of Pu disposition facilities would be based on their annual throughput, so that the length of time these facilities are in operation could be adjusted based on the quantities of Pu being processed.

F-059

SZEMPRUCH, RICH, KENNIWICK, WA
PAGE 2 OF 2



F-059

TENNESSEE VALLEY AUTHORITY, HOLLYWOOD, AL,
NICHOLAS C. KAZANAS
PAGE 1 OF 5



Tennessee Valley Authority First Office Bldg 2000 Hollywood, Alabama 35752

May 3, 1996

Mr. J. David Nulton, Director
U.S. Department of Energy
DOE-Office of Fissile Materials Disposition
SAIC-PEIS
P.O. Box 23786
Washington, DC 20026-3786

Dear Mr. Nulton:

Reference: Comments to the Storage and Disposition of Weapons-Usable Fissile Materials
Draft Fissile Materials Draft Programmatic Environmental Impact Statement
(PEIS) dated February 1996

The Tennessee Valley Authority (TVA) has reviewed the Draft Programmatic Environmental
Impact Statement (PEIS) for the Storage and Disposition of Weapons-Usable Fissile Materials.
(Storage and Disposition PEIS). Our comments on the various volumes of this document are
enclosed and primarily pertinent to partially completed LWR alternatives for the model plant
used in the study. In general, we found this document to be well written and informative.
Feedback on our comments should be forwarded to Mr. James S. Chardas, P.O. Box 2000,
Hollywood, Alabama 35752.

Sincerely,

Nick
Nicholas C. Kazanas
General Manager
Belleville Nuclear Plant
Enclosures

M-164

Draft PEIS - Volume I		
- Page 2 - 145 Why is the number of potential interstate transportation fatalities for the existing LWR a factor of around three less than the other reactor alternatives? Given the information stated, it would appear they would all be equal. Also, see comments for Page 2-257. - Figures 2.5.2.3 and 2.5.2.4 (Water Use and Operation Fatal Cancers) Why are the values for the partially complete reactors so much higher than the similar existing LWR's? All LWR's require the same cooling levels and have similar risks for fatal cancer. - Figures 2.5.2.8 and 2.5.2.1-13 These figures do not agree in terms of values of solid waste. (Disposition Alternative vs Reactor Alternative) Also, the existing LWR value of zero hazardous waste is not realistic. (Figure 2.5.2.1-13) The stage of construction for the partially completed model used in this study is not properly reflected. (i.e., - concrete work complete) - Figure 2.5.2.1 - 10 (Workforce Cancers) Why is incremental workforce fatal cancers for the partially complete LWR almost a factor of four times greater than the existing LWR's? Since both options operate similarly and for the same mission length, the partially complete LWR should be same as existing LWR's. Also, this figure has different values than Table 4.3.5.3.9-2. - Table 2.5 - 2 Page 2 - 239 For the partially complete model used in this study, there should be no salt drift. - Page 2 - 241 There is no impact to Native American resources for the partially completed model studied similar to the existing complete LWR's. - Table 2.5 - 2a Page 2- 245 (Normal Radiological Impacts) The annual dose and the number of fatal cancers to the total public should be same for both existing and partially complete LWR's. These reactors operate in the same	1/10.02.00 2/09.04.08 3/09.09.08 4/09.11.08 3/09.09.08 cont. 5/09.06.08 6/09.07.08 3/09.09.08 cont.	

M-164

10 02 00 Comment Number 1

The transportation risk presented in this PEIS is the incremental impacts over current conditions. For existing LWRs, only health risks from the transportation of material to the MOX fuel fabrication site is included since transportation from the fuel fabrication site and spent fuel transportation are already occurring. For the partially completed and evolutionary LWRs, all three transportation steps are included (to the MOX fuel fabrication site, to the reactor, and to the repository). This information is located in Footnotes b and c in Table 4.4.3.3-5 of the PEIS. The PEIS has been modified to show transportation impacts for the MOX fuel to the existing LWRs and not just the increment.

09 04 08 Comment Number 2

The partially completed LWR currently uses no water (nonoperational) and so the increase is much larger than the existing LWR which has no incremental change due to the use of MOX fuel. The absolute water used by the two reactors will be similar but the increment will be much different. The same is true for the radiological impact. However, the increased use of MOX fuel is slight for the radiological impact. The PEIS has been modified to show the absolute values as well.

09 09 08 Comment Number 3

When assessing human health risk, the following are two differences between the partially completed reactors and the existing LWRs:

- 1) The existing LWRs are already in operation. Any radionuclide releases and radiation exposures for existing LWRs are taken from reactor operating histories. However, the partially completed reactor has never been in operation. Actual radionuclide releases or radiation exposures are not available. Conservatively calculated radionuclide releases and radiation exposures for the partially completed LWR are taken from reactor licensing documents. Compared to the conservative release and radiation exposure estimates in the licensing documents, the actual releases and exposures should be lower.

Draft PEIS - Volume I
(Continued)

Page 2 - 257 (Intersite Transportation) The difference between incremental potential for existing and maximum potential for partially complete does not make any sense. Since there are currently no transports to any facility whether existing or partially complete, why are the potential fatalities so much higher for partially complete LWR? (5.49 vs 1.39) It would appear that the value for existing and partially complete LWR's should be the same.	1/10.02.00 cont. 7/09.04.08
Page 3 - 370 (Water Resources) Strike the word "likely" in the fifth line and add "via Town Creek" at the end of the 6th line.	

M-164

2) For incremental latent cancer fatalities, the existing LWR is already in operation without regard to the Pu disposition program. The incremental impact is the difference between the potential latent cancer fatalities of existing conditions (operating with UO_2 fuels) and the new actions (continue to operate the existing LWRs with MOX fuels). Section 4.3.5.2.9 of the Final PEIS has been updated to show the incremental and total impact using MOX fuel. For the partially completed LWR, the reactors are not yet in operation. Therefore, there are no radiation exposures from these facilities. Also, if the partially completed reactors are not used for the Pu disposition, the facilities would never be completed. The baseline for the partially completed reactors assumes no radionuclide releases nor radiation exposures. Therefore, partially completed reactors will have a larger incremental health impact relative to operating reactors. The PEIS has been modified to show the projected impacts as well as the incremental impacts for existing LWRs.

These two major factors contribute to the higher latent fatal cancers for partially completed reactors compared to the existing LWRs.

09 11 08 Comment Number 4

Figure 2.5.2.1-13 of the Draft PEIS does not include MOX fuel fabrication facility generated waste since it is only comparing reactors that all use MOX fuel. Figure 2.5.2-8 of the Draft PEIS includes the waste generated from the MOX facility since the comparison is being done to other alternatives that do not use the MOX fuel fabrication process. The zero hazardous waste for the existing LWR in Figure 2.5.2.1-13 of the Draft PEIS is the incremental change for using MOX fuel. None of the figures contain information on the construction impacts. Construction impacts information is presented in Chapter 4. The PEIS has been modified to show the projected waste quantities as well as the incremental quantities for using MOX fuel, and based on comments received, the comparison figures in Section 2.5 of the Draft PEIS have been removed.

09 06 08 Comment Number 5

Information presented on page 2-130 of the Draft PEIS indicates that the Bellefonte Nuclear Power Plant was selected for inclusion as a typical partially completed power plant. The Bellefonte Final EIS (pages 2.5-3 and

Draft PEIS - Volume II	• Section 4.3.5.3.10 (Waste Management) The data in this section states that the annual fuel discharge from the same size existing PWR's is between 50.7 to 108.5. This section needs to be revised to agree with 4.3.5.2.10 which states that the average existing PWR annual fuel discharge is 48 bundles. This will affect heavy metal content. The differences between the existing and partially complete reactors in terms of annual spent fuel discharge are minimal at best. • Figure 4.6.2.5-18 (Annual Volume of Spent Fuel...) This figure shows spent fuel from the two partially completed reactors to be greater than existing LWR's. See above comment on waste management. Also, this figure does not agree with Figure 2.5.2.1-12. • Figure 4.6.2.5-12 (Annual Solid Mixed Low Level Waste...) The amount of solid mixed low-level waste should be the same for both the existing and partially complete LWR's since they operate the same. • Figures 4.6.2.5-9 and 4.6.2.5-10 The liquid low-level waste annual volumes show essentially zero for existing LWR and over 35km³ for partially complete LWR. There appears to be a similar problem with the solid low-level waste differences between existing LWR and the partially complete LWR. The liquid and solid low-level waste values for the existing and partially complete LWR's should be the same given similar operational characteristics. • Figure 4.6.2.5-5 (Fatal Cancers to Involved Workforce) The maximum incremental impacts to the involved workforce for the existing and partially complete should be the same. Since these types of LWR's will operate the same for plutonium disposition, the number of incremental fatal cancers should be the same. • Section 4.9/Page 4 - 888 (Avoided Human Health Impacts...) The partially completed LWR alternative should be given credit for avoided impacts. New MOX facilities will have to be completed no matter which reactor alternative is chosen. To apply credit to only the existing LWR's is not correct.	8/09.11.08
	9/09.11.08	
	3/09.09.08 cont.	
	10/09.09.08	
	M-164	

2.5-4) states that essentially all of the salt drift is expected to fall within 914 m (2,998 ft) of the cooling towers.

09 07 08 Comment Number 6

Because the existing LWR is in use, its effects are known. Effects of the partially completed LWR are not. There is a potential for impacts to Native American resources under this alternative associated with infrastructure improvements and facility operation. Although such impacts are unlikely, they cannot be ruled out at this programmatic level of analysis.

09 04 08 Comment Number 7

Comment was incorporated.

09 11 08 Comment Number 8

The number of fuel assemblies with UO₂ fuel discharged for seven different existing LWR types is 48 assemblies per year (21 t [23.1 tons]). Using MOX fuel increases the number of assemblies by an average of 32 assemblies (14 t [15.4 tons]) as an average of 33, 61, and 3 more assemblies for a CE-R1, CE-R2, and W-ER, respectively. This gives a total of 80 fuel assemblies discharged per year using MOX fuel. For the partially complete LWRs using MOX fuels, the number of fuel assemblies discharged is 81, 109, and 51 for a CE-R1, CE-R2, and W-ER, respectively. Therefore, the range in Section 4.3.5.3.10 is 50.7 assemblies (22 t [24.2 tons]) to 108.5 assemblies (47 t [51.7 tons]) but the average is 80 assemblies discharged similar to the existing LWR. Additional information is contained in Data Report *FMDP LWR PEIS*, Rev 3, December 21, 1995.

09 11 08 Comment Number 9

Figures 4.6.2.5-9, 4.6.2.5-10, and 4.6.2.5-12 of the Draft PEIS include the incremental low-level and mixed LLW generated by replacing UO₂ fuel with MOX fuel. As stated in Section 4.3.5.2.10, the use of MOX fuel versus UO₂ fuel would not increase the waste generation rate at existing LWR site. The

partially completed LWR using MOX fuel would generate even more waste since none is currently being generated (nonoperational). The PEIS has been modified to show the projected waste quantities as well as the incremental quantities for using MOX fuel.

09 09 08 Comment Number 10

The avoided environmental impacts for the partially completed LWRs were analyzed and documented in the Final PEIS.

**TETON TECHNOLOGIES, INC., IDAHO FALLS, ID,
BILL QUAPP
PAGE 1 OF 9**

Teton Technologies, Inc.

860 W. Riverview Dr.
Idaho Falls, ID 83401
Phone 208-535-9001
Fax 208-529-3955
Email wig@srv.net

*Telegram from
Bill Quapp*

Please Deliver To: Public Comment Office **Date:** June 7, 1996

I recommend that the DOE consider a passive safety storage system such as described on the attached slides. I have conceived and evaluated such project while at the INEL about 1.5 years ago. I believe that the concept has merit and provides unique and substantial safeguards.

Since the presentation slides do not tell the story by themselves, I will be happy to convey additional information as requested. Feel free to call me at the above number.

Sincerely,

Bill Quapp

1/14,00.00

F-056

14 00 00 Comment Number 1

Comment noted.

TETON TECHNOLOGIES, INC., IDAHO FALLS, ID,
BILL QUAPP
PAGE 2 OF 9

**Passively Secure
Plutonium Storage
Concept**

W. J. Quapp
J. W. Sterbentz
E. L. Shaber
E. P. Stroupe

October 1994



Plutonium:

**If you can't move it - it can't
be used to produce weapons**

F-056

TETON TECHNOLOGIES, INC., IDAHO FALLS, ID,
BILL QUAPP
PAGE 3 OF 9

Plutonium Storage Has Specific Functional Requirements

- Safe from diversion risks
- Chemically inert storage environment
- Critically safe under all postulated conditions
- Safe from external events (fire, flood, tornado, earthquake)

Desirable Features of Storage System

- Available technology
- Easily demonstrated
- Low cost
- Easily implemented

Conventional Storage Uses Active Protection to Keep Secure

Based on:

- Need for material accessibility
- Short term storage requirements
- Used temporary storage containers

Focusing on Functional Requirements
Can Lead to Other Solutions Which May Be
Passively Secure

- Cast cylinders
- Formed wafers

F-056

**INEL Has Conceived A Passively Secure
System that Uses A Massive Container
for the Long Term Storage of Weapons
Grade Plutonium**

- System consists of critically safe, heavy wall, cylinders of borated steel with a cast Pu core
- Cylinders assembled into a robust steel overpack
- The total system is engineered to weigh 50 to 100 tons
- Facilities needed for a process demonstration are already in the DOE complex

**INEL Has Performed Nuclear Design
Calculations to Determine Criticality
Control Requirements**

- System will use passive criticality control methods built into crucible alloy
- Container and subassemblies are designed to be subcritical in an infinite lattice
- Vulnerability to physical penetration will be assured by design
- Concept allows storage of Pu in any of several physical or chemical forms

F-056

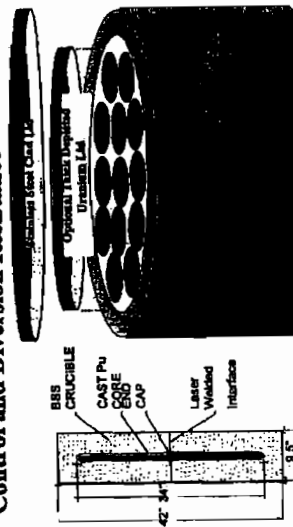
TETON TECHNOLOGIES, INC., IDAHO FALLS, ID,
BILL QUAPP
PAGE 5 OF 9

Preliminary Design Concept for a 50 Ton Inventory



Assembly Diameter (ft)	Number of Subassy's	Assembly Mass (ton)	No of Assemblies
8	80	52	29
10	125	79	19
12	180	110	13

Concept Uses a Critically Safe Cylinder of Borated Steel for both Nuclear Criticality Control and Diversion Resistance



F-056

**Passively Secure Plutonium Storage Area
Provides Physical Security and Satellite
Surveillance Access**



**Storage Concept Provides Security and
Safeguards Auditability**

- Security is achieved through large mass and robust structure
- Storage can be in open area since diversion would require massive lifting capability or heavy machine tooling
- Open storage allows safety inspections, public scrutiny, and satellite surveillance for compliance with international treaties and safeguards requirements
- Open concept reduces the mystique of plutonium storage
- If activities are initiated to move containers, warning can be assured using satellite surveillance

F-056

TETON TECHNOLOGIES, INC., IDAHO FALLS, ID,
BILL QUAPP
PAGE 7 OF 9

**International Implementation Offers
Substantial Benefits and Ease of Treaty
Verification**

- Concept does not require any irreversible decision such as mixing Pu with fission products or depleted uranium
- Storage configuration provides security against internal diversion
- Eventual use in power reactors is feasible
- Only the Pu casting requires high technology facility
- Steel components could be fabricated in Russia and create jobs and exportable products

**Process Can Be
Accomplished on a Timely
Basis**

- In the U.S. most or all the facility infrastructures are in existence
- Steel for crucibles can be obtained from industry
- Alternatively, recycled steel from low level waste could be used -- probably resulting in a cost reduction
- Demonstration of concept can be performed with minimal development costs and facility preparations

F-056

In Summary

- Storage concept replaces guards with mass
- Provides intermediate to long-term storage in chemically stable environment
- Requires only moderate facility upgrades to accommodate process demonstration
- Makes Pu recovery difficult and easily detectable
- Can be implemented on an international basis to provide secure storage for all sources of plutonium

INEL Would like to Conduct Preconceptual Design Studies

- Develop preliminary design details and perform design optimization studies
- Obtain vendor material and equipment costs
- Evaluate modifications for ANL-West facilities
- Develop unit costs (\$/kg-Pu) for various options
 - Cast Pu cylinders
 - Forged wafers
 - Other
- Evaluate vulnerability

F-056

TETON TECHNOLOGIES, INC., IDAHO FALLS, ID,
BILL QUAPP
PAGE 9 OF 9

**Storage System Components Can Be
Demonstrated Using INEL Facilities**

- Purchase forged & machined borated steel crucibles
- Melt and cast Pu into crucibles at ANL West
- Seal weld crucibles
- Weld two crucibles together to form large subassembly
- Load subassemblies into storage container
 - weld subassemblies in place
 - weld cover on assembly
- Moved to long term storage area

F-056

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION,
AUSTIN, TX, DAN PEARSON
PAGE 1 OF 6



Berry L. McGee, Chairman
R.B. "Bobby" Marquez, Commissioner
John M. Baker, Commissioner
Dan Pearson, Executive Director

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Enforcing and Promoting Policies

May 7, 1996

Mr. T.C. Adams
Governor's Office of Budget and Planning
P.O. Box 12428
Austin, Texas 78711

Re: U.S. Department of Energy
Draft Programmatic Environmental Impact Statement (PEIS)/
Storage and Disposition of Weapons-Usable Fissile Materials
TX-R-96-03-28-0002-50-00
Draft PEIS/Stockpile Stewardship and Management/
TX-R-96-03-28-0001-50-00

Dear Mr. Adams:

The Texas Natural Resource Conservation Commission (TNRCC) has reviewed the above-referenced Draft PEISs, and our technical review comments are enclosed. The joint comments of the State natural resources trustees are also enclosed.

The TNRCC is concerned that both PEISs should include greater evaluation of risks posed by the alternatives proposed. The PEIS addressing the storage and disposition of weapons does not, but should, consider migration of liquid or solid contaminants and a general worst-case release scenario in case of an accident. The PEIS addressing stockpile stewardship and management does not consider risks from exposure to hazardous chemical releases to water and soils or from a complete phase-out of the Pantex facility. The TNRCC also recommends that the Department of Energy (DOE) share regulatory oversight with another federal or state agency, to minimize the management problems that have caused problems at DOE facilities in the past.

Thank you for the opportunity to participate in this review process. I believe these comments will assist the DOE in considering use of the Pantex facility. If you have any questions regarding these comments, please feel free to contact Mr. David Duncan, Director, Intergovernmental Relations Division, at (512) 239-3510.

Sincerely,


Dan Pearson
Executive Director

F-039

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION,
AUSTIN, TX, DAN PEARSON
PAGE 2 OF 6

REVIEW COMMENTS STORAGE AND DISPOSITION OF WEAPONS-USABLE FISSILE MATERIALS DRAFT PROGRAMATIC ENVIRONMENTAL IMPACT STATEMENT (DEIS) TEXAS NATURAL RESOURCE CONSERVATION COMMISSION (TNRCC) OFFICE OF WASTE MANAGEMENT April 29, 1996	1/09.09.04
Exposure Modeling - The MELCOR Accident Consequence Code System (MACCS) model was limited to examining contaminant transport and exposure via atmospheric dispersion. No exposure modeling was conducted for migration of contaminants in liquid and/or solid phases. For instance, the perched aquifer has been contaminated as a result of wastewater discharge to the ditches and playa, not by air emissions. In addition, the accident scenarios do not account for management error, although human error is identified by DOE as a hazard during the safety design process, or for accidental release of hazardous and/or radiological wastes.	2/09.09.04
Accident Impacts Considering the value of the Ogallala aquifer, the TNRCC requests that DOE include in its evaluation the impacts/risks of a worst case release to the environment and the state's ability to recover, should such an accident occur. As presented in the DEIS, DOE has diluted the stated risks by factoring in the probability of the accident occurring. The TNRCC requests that the accident probability not be factored into the risk.	3/01.00.00
Regulatory Oversight of Radioactive Constituents - Although all surface water discharges will reportedly be monitored and subject to NPDES requirements, the TNRCC notes that no radiological water quality parameters are specified in TNRCC Permit No. 02296, which corresponds to NPDES Permit No. TX0107107. These parameters are of particular interest to the state, considering the potential for waste releases from the proposed Pu conversion processes. The TNRCC requests that DOE take action which will enable the State of Texas to legally monitor and regulate radioactive constituents.	
The TNRCC would be more willing to accept plutonium conversion processes within the State of Texas if DOE would actively champion external regulatory oversight for radioactive sources, special nuclear or byproduct material. It is our understanding that many of the serious problems DOE facilities are facing today occurred as a result of management problems and conflicting missions, rather than lack of technical expertise. It is our opinion that these sorts of errors can best be minimized if the oversight is shared with a regulatory agency outside of DOE.	
If you have any questions regarding these comments, please contact Mr. Geoffrey Meyer, Industrial and Hazardous Waste Division, Federal Facilities Team, at (512) 2577.	F-039

09 09 04 Comment Number 1

The MACCS code does not calculate water-pathway exposures. However, if an accident occurs, radioactive air emissions would be the immediate concern and dominate the human health impact. Other pathways such as a liquid release may be a concern after an accident. However, the potential impacts are delayed and the magnitude of the impacts is smaller since it takes time for radioactivity to reach to an aquifer, following a release, and be consumed by or exposed to humans, animals, or plants. This is particularly true for Pu, which has slower migration characteristics in unsaturated and saturated soils, delaying its transport to an aquifer.

The accident scenarios were developed based on applicable information including Safety Analysis Reports, NEPA documents and related backup information, DOE's safety surveys, and discussions with experts familiar with potential accidents for facilities and operations evaluated in this PEIS. The accident scenarios were developed to yield the maximum, or bounding, consequences to cover all potential accidents initiating events.

09 09 04 Comment Number 2

If an accident were to occur, radioactive air emissions would be an immediate concern and would be closely monitored to determine the potential for any human health impacts. Although other pathways such as liquid releases are also a concern, they may not be apparent until some time after an accident. As a result, their impacts would be delayed. There would be more time to take corrective action, and the magnitude of the impacts would be much smaller. This is because it takes substantially more time for contaminated liquids to reach an aquifer and then be consumed or come in contact with humans, animals, or plants. This is particularly true for Pu which has slow migration characteristics into unsaturated soils, thereby further contributing to a long delay of a liquid release reaching an aquifer.

When analyzing an anticipated accident, both the consequences and the frequency of the accident occurrence are considered. If an accident occurs, the consequences include the identification of potential human impacts. The accident frequency reflects the probability that an accident will occur. Both the consequences and the probability need to be presented in the PEIS so that

REVIEW COMMENTS
ADDENDUM
STORAGE AND DISPOSITION OF WEAPONS-USABLE FISSILE MATERIALS
DRAFT PROGRAMMATIC EIS
Geoffrey Meyer
May 3, 1996

The acceptable lifetime cancer risk under the TNRCC corrective action process is between 1×10^{-4} and 1×10^{-6} (one in ten thousand and one in a million). According to Table 4.2.4.9-1, the estimated risk of cancer for the public under the No Action and Storage Scenarios is between 7.9×10^{-4} and 2.4×10^{-11} . The following plutonium disposition alternatives/subalternatives have estimated cancer risks for the public that exceed the maximum risk of 1×10^{-4} under normal operations at Pantex (Chapter 4):

Direct Disposition - Deep Borehole
MOX Fuel Fabrication Facility

The following plutonium disposition alternatives/subalternatives have estimated cancer risks for the site workers that exceed the maximum risk of 1×10^{-4} under normal operations at Pantex (Chapter 4):

Pit Disassembly/Conversion Facility
Plutonium Conversion Facility
Deep Borehole Complex
Ceramic Immobilization
Vitrification
Electrometallurgical Treatment
MOX Fuel Fabrication Facility
Evolutionary Light Water Reactor

Workers involved in the storage of plutonium at upgraded facilities, consolidated plutonium storage facilities, and facilities that collocate plutonium with HEU have an estimated fatal cancer risk on 5.0×10^{-3} .

4/09.09.04

the public and the decisionmaker can put the risk of each alternative into proper perspective.

01 00 00 Comment Number 3

Comment noted. DOE is committed to operating its facilities in full compliance with applicable regulatory requirements.

09 09 04 Comment Number 4

The cancer risks for the MEI of the public for the deep borehole and MOX fuel fabrication facility are 3.1×10^{-10} to 1.6×10^{-5} (generic site) and 5.6×10^{-8} (Pantex) during facility lifetime normal operation. However, worker radiological exposures are regulated by annual dose limits. For the workers involved in the proposed disposition actions, the maximum radiation dose is 810 mrem/yr (large evolutionary LWR). This dose is below DOE's administrative control limit of 2,000 mrem/yr (DOE/EH 0256T) and the Federal limit of 5,000 mrem/yr (10 CFR 835). It is DOE's policy to practice ALARA and keep worker exposures below their administrative control limit.

F-039

REVIEW COMMENTS
STORAGE AND DISPOSITION OF WEAPONS-USABLE FISSILE MATERIALS
DRAFT PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT (PEIS)
Texas Natural Resource Conservation Commission (TNRCC)
Office of Air Quality
April 30, 1996

Our review was limited to Pantex Plant and only with regard to air quality impacts of nonradiological pollutants:

- There is no significant difference in the No Action Alternative and Storage at Pantex Alternative.
- No increase in toxic/hazardous air pollutants is anticipated under the no action alternative.
- Estimated operational concentrations of pollutants are provided in Table 4.2.4.3-1 in the PEIS. It is not clear how the emissions were estimated. Neither TNRCC nor the DOE operates monitors at Pantex for criteria pollutants (Ozone, Carbon Monoxide, Sulfur Dioxide, Nitrogen Dioxide, and Lead), except for respirable particulates of 10 microns or less in diameter (PM₁₀).
- Table 4.2.4.3-1 provides an annual average value of 8.73 micrograms/m³ and 24 hour average of 88.5 micrograms/m³ as estimated concentrations of PM₁₀ for No Action Alternative. Storage alternative increases both values slightly. These numbers vary considerably from monitored levels. The highest annual average of monitored values is 23 micrograms/m³ (versus 50 micrograms/m³ standard), and the highest 24-hour average of monitored values is 270 micrograms/m³ (versus 150 micrograms/m³).
- Since TNRCC started monitoring at Pantex in September 1992, we have recorded five exceedances of the PM₁₀ 24-hour standard at Pantex, the highest of which was 353 micrograms/m³ in January 1996.
- The same holds true for Total Suspended Particulates (TSP). The table indicates that no sources are indicated for TSP. However, we recorded two very high readings in 1993 at 650 and 461 micrograms/m³. Since there are no national standards for TSP, TNRCC has stopped analyzing filters for TSP.
- Methylene Chloride is the only toxic pollutant that exceeded the effects screening levels established by the TNRCC Toxicologists. However, it was determined that no long-term health impacts are to be expected from this one time event.
- It is to be noted that the PM₁₀ exceedances were recorded on days when blowing dust was present or some dirt moving activity was taking place close to the monitoring station. In the Consolidation Alternative, the PEIS makes a statement that appropriate control measures would be followed to minimize pollutant concentrations (PM₁₀ and TSP) during construction. This should satisfy TNRCC requirement for protecting public health and welfare.

If you have any questions regarding the above comments, please contact Mr. Joe Panketh, Office of Air Quality, Ambient Monitoring Section, at (512) 239-1656.

F-039

09 03 04 Comment Number 5

Concentrations of air pollutants for the No Action Alternative presented in Table 4.2.4.3-1 are provided by Pantex. These concentrations are based on modeling of recent emissions data. Emission data is routinely assembled by Pantex and presented to the Texas Natural Resources Conservation Commission (TNRCC) in the quarterly *Air Quality Assessment Program-Pantex Nuclear Facility Ambient Air Monitoring Quarterly Report*. As described on page 3-6, the baseline air quality of the affected environment is based on model-predicted pollutant concentrations for existing sources using concentrations presented or by modeling recent emission data. The emissions data for Pantex are from an inventory completed in 1994 for DOE. TNRCC, in cooperation with DOT, operates several air quality monitoring stations at Pantex. The measured pollutants include particulate matter less than or equal to 10 microns (PM₁₀), hydrogen fluoride (HF), and organic pollutants such as volatile organic compounds (VOCs).

09 03 04 Comment Number 6

Concentrations of air pollutants for the No Action Alternative presented in Table 4.2.4.3-1 are provided by Pantex. These concentrations are based on modeling of recent emissions data. Emissions data is routinely assembled by Pantex and presented to TNRCC in the quarterly *Air Quality Assessment Program-Pantex Nuclear Facility Ambient Air Monitoring Quarterly Report*. The emissions data for Pantex are from an inventory completed in 1994 for DOE. The PM₁₀ concentrations represent the maximum estimated concentration of PM₁₀ based on a 500, 1,000, and 2,000 weapons level of activity and scenarios which include the burning of 45.36 kg (100 lb) and 362.88 kg (800 lb) of high explosives. The PM₁₀ monitoring data from TNRCC monitors at Pantex were not used since these data do not reflect the anticipated future level of activity at the site.

09 03 04 Comment Number 7

It is assumed in the PEIS, that all Federal, State, and local environmental regulations and guidelines would be met during construction and operation of the various facilities, and that standard industry-accepted mitigation control measures would be utilized. Particulate matter control measures may include watering of exposed areas and roads as may be required by TNRCC.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION,
AUSTIN, TX, DAN PEARSON
PAGE 5 OF 6

Texas Natural Resource Conservation Commission

TO: Sidney Wheeler, Intergovernmental Relations DATE: May 1, 1996
FROM: Glenny King, TNRCC Natural Resource Trustees Program (NR-TP)
SUBJECT: Joint Trustee Comments to the "Stockpile Stewardship and Management" and
"Disposal of Weapon-Usable Fissile Materials" Environmental Impact
Statements for the Pantex Superfund Site

As Lead Administrative Trustee (LAT) on behalf of the State Trustee, Texas General Land Office (TGLO), Texas Parks and Wildlife (TPWD), and Texas Natural Resource Commission (TNRCC), this memo is written to provide the State Trustee's comments on the "Stockpile Stewardship and Management EIS" and the "Storage and Disposal of Weapon-Usable Fissile Materials EIS" for the Pantex Superfund Site.

The Trustees for the State of Texas strongly support the President of the United States and the Department of Energy (DOE) in the unilateral efforts to reduce the number of armed nuclear warheads worldwide. We further recognize the difficult responsibility of storing and stockpiling the Nation's disassembled nuclear weaponry. However, the DOE is one of the Federal Trustees for natural resources and has the responsibility of protecting those natural resources from injury on behalf of the public.

The Trustees have concerns with the Storage and Disposition of Fissile materials at the Pantex Superfund site due to the natural resources associated with this site. The Pantex site overlies one of the most pristine groundwater resources in the United States, the Ogallala aquifer. As a pristine natural resource, it is worthy of much protection. Former waste management practices at the Pantex facility have generated a perched aquifer that is not consistent across the site but is present in the Zone 11 and 12 areas. The Trustees understand that to date, the extent of the perched aquifer has not been determined. We further understand that discharges of wastewater are not directly discharged into the perched aquifer; however, the connection of the discharge area to the perched aquifer and eventually to the Ogallala has not been established. This perched aquifer is contaminated with several hazardous substances. The proposed construction of the P4 Disassembly Conversion facility, Plutonium (Pu) conversion facility and MOX fuel facility cause great concern among the Trustees. The proposed locations for these facilities are all within Zones 11 and 12 which overlie the perched aquifer. The potential for this perched aquifer to be further contaminated exists as a result of these proposed operations, which increases the potential for injury to the Ogallala.

The potential for Plays 1 to be further contaminated is another concern. The Plays may be a potential recharge source for the perched aquifer which may be a source of recharge for the Ogallala. In addition, the Plays are surface water resources for many aquatic and terrestrial, vertebrate and invertebrate species. Therefore, the Pantex site contains many natural resources that have the potential to be injured as a result of the proposed DOE practices.

8/09.04.04

9/09.04.04

F-039

09 04 04 Comment Number 8

Waste/hazardous material treatment/handling operations are regulated to minimize the potential for releases of hazardous substances to the soil or surface water which could then migrate to the groundwater.

09 04 04 Comment Number 9

Wastewater discharge to Playa 1 is regularly monitored for specific parameters under a National Pollutant Discharge Elimination System (NPDES) permit issued by the TNRCC. The actions proposed in the PEIS are not expected to have an effect on the quality of wastewater discharged to Playa 1 and, therefore, are not expected to have an effect on the perched or Ogallala Aquifer.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION,
AUSTIN, TX, DAN PEARSON
PAGE 6 OF 6

09 04 04 **Comment Number 10**
The Department of Energy will consider reuse of this treated groundwater for any potentially beneficial uses. However, re-injection (to the perched aquifer) of this treated water may be necessary for optimal performance of the groundwater treatment system.

09 04 04 **Comment Number 11**
It is DOE's opinion that the opportunity to comment on this and other documents relating to potential activities at Pantex includes the Trustee agencies in the evaluation of potential environmental impacts. DOE will continue to work with the State Trustee agencies on compliance and restoration activities, and protection strategies for the Ogallala Aquifer.

Memo Re: Joint Trustee Comments to the Pantex Draft EIS
Page 2

Although the surface water discharges will reportedly be monitored and subject to NPDES permit requirements, the Trustee notes that no radiological water quality parameters are specified in the TNRCC permit no. 02296, which corresponds to NPDES Permit NO. TX01007107. These parameters are of particular interest to the Trustee, considering the potential for waste releases from the proposed Pu conversion processes. The Trustee understands that many of the serious problems DOE facilities are facing today are as a result of management problems and conflicting missions rather than lack of technical expertise. It is the opinion of the Trustee that errors of this nature can be minimized if the oversight is shared with a regulatory agency outside of DOE. The Trustee request that DOE initiate action which will enable the State of Texas to legally monitor and regulate radioactive constituents.

Considering the value of the Ogallala aquifer, the Trustee request that DOE include in its evaluation, the impacts of a worst case release to the environment and the ability of the Panhandle of Texas to recover, should such an accident occur. Under this scenario, the accident probability would be set at one, rather than the typical one in 10,000 or 10,000,000.

It is the understanding of the Trustee that a Treatability study of the contaminated perched aquifer is ongoing at the Pantex site. We further understand that this study has been successful and several thousand gallons of "clean water" are being generated as a result of this treatment. If the new Pu facilities are constructed in Zone 12, the Trustee recommend the utilization of this treated water for the Pu process rather than impact the water supply of the Ogallala. This would insure further protection of a natural resource on behalf of the public.

The DOE should consider both short term and long term protection strategies for the Ogallala aquifer. The Trustee recommend that DOE include the natural resource Trustee agencies in the evaluation of minimizing injuries to natural resources and potential candidate areas for restoration when residual injury remains.

cc: Richard Seiler, Manager, NRTF TNRCC
Don Pitt, TPWD
Diana Hyatt, TGLD
Bob Short, USFW Arlington
Steve Spencer, DOI
Ron Gougeon, NOAA CRC Region 6
Garof Meyer, RCEA TNRCC

2/09.09.04
cont.

10/09.04.04

11/09.04.04

F-039

TEXAS TECH UNIVERSITY HEALTH SCIENCES CENTER,
AMARILLO, TX, ARTHUR A. NELSON
PAGE 1 OF 2



TEXAS TECH UNIVERSITY HEALTH SCIENCES CENTER at AMARILLO

School of Pharmacy
Office of the Dean
1400 Wallace Boulevard
Amarillo, Texas 79106
(800) 354-5463
FAX (800) 354-5549

April 10, 1996

U.S. Department of Energy
Office of Reconfiguration
P.O. Box 3417
Alexandria, Virginia 22302

U.S. Department of Energy
Office of Fissile Materials
P.O. Box 23786
Washington, DC 20026

RE: Comment on Stockpile Stewardship and Management (SSM) and Storage and Disposition
(S&D) of Weapons-Usable Fissile Materials Draft Programmatic Environmental Impact
Statements (PEISs)

Thank you for this opportunity to comment on the U.S. Department of Energy's (DOE)
Programmatic Environmental Impact Statements (PEISs) on Stockpile Stewardship and
Management (SSM) and Storage and Disposition (S&D) of Weapons-Usable Fissile Materials.
These comments are also directed toward the Pantex Site-Wide Draft Environmental Impact
Statement, as most issues addressed in both these documents are identical.

Texas Tech University Health Sciences Center School of Pharmacy fully supports the retention
and expansion of the Pantex facility as a storage, processing and component fabrication complex
with capabilities for non-nuclear manufacturing and also research, development and testing.
Pantex has been an integral part of this community for more than forty years, and has done so as
a safe and environmental "clean" complex. There is every reason to believe that the facility
would continue operating in such a manner. Pantex has been a pivotal force in expanding the
economic base of the Panhandle from agrarian to industrial. As part of the community of
Amarillo, we at Texas Tech University Health Sciences Center at Amarillo, depend on the
socioeconomic impact Pantex provides our area.

I am pleased that the DOE selected Pantex as the preferred alternative for assembly/disassembly.
It is hoped that Pantex will also be recognized as the preferred candidate site for new and/or
consolidated stockpile management facilities. Pantex is the best site for maintaining the integrity
of the U.S. nuclear stockpile because of maximum efficiencies and cost savings.

Labor cost, utility rates and water and land availability at Pantex make it the best site and perhaps
the most cost-effective alternative for any new construction of SSM facilities. As an alternative
site for all future defense-related facilities, Pantex would complement activities at the national

08 03 01

Comment Number 1

The Department of Energy acknowledges the commentor's support of
Pantex. Decisions related to future missions at Pantex will be based upon
environmental analyses, technical and economic studies, national policy
considerations, and public input.

1/08.03.01

M-041

TEXAS TECH UNIVERSITY HEALTH SCIENCES CENTER,
AMARILLO, TX, ARTHUR A. NELSON
PAGE 2 OF 2

labs (such as the planned Atlas Facility and plutonium pit fabrication site at Los Alamos National Laboratory). Additional defense-related activities at Pantex would ensure that core technical capabilities are preserved at a location that can secure them at the most efficient cost. The DOE should insist that, in its deliberations, budgetary comparisons between Pantex and the other sites are accurate and include capital, transportation, training, remediation and other costs.

The high explosives (HE) functions should also remain at Pantex in conjunction with the assembly/disassembly functions. HE capabilities must be retained to process the inventories on site from dismantling. This is also the least expensive alternative. Transfer of HE functions away from Pantex would cost between \$40 and \$50 million. Should future need arise for new weapon production it would be critical to have the HE facility at the weapons production/assembly site.

Pantex currently safely stores more than 8,000 surplus pits and plans are being made to ship additional pits from Rocky Flats to Pantex. I do not make sense to re-create storage facilities at another site and transport large amounts of plutonium across the country. Pantex should be designated the preferred site for any disposition options and related functions. Pantex could continue to store plutonium which is already on site and upgrade facilities for any and all storage options by DOE with minimal cost. It makes budgetary and policy sense to site disposition where storage already exists. Pantex already has the necessary safety, security and surveillance capabilities to accommodate an expanded role and is the production site closest to Los Alamos, the planned pit fabrication site.

I respectfully request DOE to designate Pantex as the preferred alternative site for all existing and new stockpile management and stewardship functions as well as consolidation of all plutonium storage and disposition and any related functions.

Thank you for the opportunity to comment on these documents.

Sincerely,


Arthur A. Nelson, R. Ph.D., Dean

1/08.03.01
cont.

M-041

THOMAS J. WATSON RESEARCH CENTER,
YORKTOWN HEIGHTS, NY, RICHARD L. GARWIN
PAGE 1 OF 2

From: rsw@watson.ibm.com Mon Apr 8 14:21:26 1996
Date: Mon, 08 Apr 1996 14:18:52 -0400 (EDT)
To: Jean Hernandez (Secretary to R.L. Garwin) <rsw@watson.ibm.com>
Subject: 04/08/96 Letter R.L. Garwin to President Bill Clinton.
To: president@WhiteHouse.GOV
Reply-to: RSW@watson.ibm.com
Message-id: <0113AV00V7280007K8STORM.EOP.GOV>

Richard L. Garwin
IBM Fellow Emeritus
Thomas J. Watson Research Center
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(914) 945-2555
FAX: (914) 945-4419
INTERNET: RLG2 at watson.ibm.com

April 8, 1996

President Bill Clinton
The White House
1000 Pennsylvania Avenue
Washington, DC 20500

Dear Mr. President:

I am writing to support enthusiastically the letter to you of 03/19/96 from John Ahearne, Floyd Culler, Paul Doty, Richard Kennedy, Pief Panofsky, and Nobel Prize winner Glenn T. Seaborg to hasten and reinforce the program for protection and disposition of excess weapon-usable fissile materials.

At Los Alamos during the 1950s and 60s I helped design, build, and test nuclear and thermonuclear weapons. Over the decades, I have also been a member of U.S. teams and backup groups for the negotiation of limitations on nuclear weapons and on their testing.

Now at a time of historic agreement with the Russian state, we are frittering away a golden opportunity not only to get rid of vast numbers of Russian nuclear weapons, but also of the material to make them. What we need now is Presidential leadership that will

1. Inspire DOE to move forward with actual project-oriented programs to burn excess plutonium in existing U.S. reactors (without endorsing the reprocessing of nuclear fuel to obtain further plutonium) as well as to vitrify a portion of the excess weapon plutonium.

1/08.03.01

E-008

08.03.01 Comment Number 1

The Department of Energy acknowledges the commentor's support of the Reactor and Immobilization Alternatives. Decisions on disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

THOMAS J. WATSON RESEARCH CENTER,
YORKTOWN HEIGHTS, NY, RICHARD L. GARWIN
PAGE 2 OF 2

2. Establish in law a national priority to proceed with plutonium disposition, making an explicit statement to the public that the policy of the United States, in the interests of its national security.	2/15.00.00	Comment Number 2	15 00 00	Comment noted.
3. Support DOE's request for plutonium disposition activities, while directing that at least 15% of the	3/01.03.00	Comment Number 3	01 03 00	Comment noted.
PAGE 2 total should be expended on programs in Russia, to ensure that disposition of Russian excess weapon plutonium can be accomplished together with disposition of U.S. plutonium.	2/15.00.00			
4. Increase funding for material protection, control, and accounting.	cont.			
5. Lead a Comprehensive approach to controlling nuclear smuggling.	3/01.03.00			
6. Redouble the focus on nuclear transparency to ensure that the U.S. has an insight into actual Russian activities, and that Russia has similar insight into U.S. stockpiles and disposition activities, in order to quell Russian internal propaganda.	cont.			
7. Show that reinventing government works in DOE in going beyond openness to effective action.				
I was in Beijing in February and Moscow in March, and I know how much U.S. leadership is necessary in this field. We are way behind where we should be in avoiding this threat to our national and international security, and I urge you to act both in Washington and at the nuclear summit in Moscow.				
Sincerely yours,				
Richard L. Garwin				
cc: B. Clinton, DC. (Via Email to president at whitehouse.gov)				
RLG:jah:V099BC:040896..BC				
E-008				

THOMAS, ANITA, POCATELLO, ID
PAGE 1 OF 1

Comment ID: P0021
Date Received: April 18, 1996
Name: Anita Thomas
Address: 3559 Conlin Road
Pocatello, ID
Phone: 208-238-1696

Transcription:

I believe that it would be a very good idea to use the plutonium to generate energy in a nuclear reactor before disposing of it. Thanks.

1/08.03.01

08 03 01

Comment Number 1

The Department of Energy acknowledges the commentor's support for Pu disposition in reactors. Decisions on disposition will be made based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

P-021

F-011

As explained in the PEIS, some residues after appropriate stabilization will be dispositioned through one of the disposition alternatives. Pu is special nuclear material that is not subject to RCRA as explained in the response to Comment Number 1. Any necessary stabilization or treatment is or will be covered by other DOE NEPA reviews. Treatment or stabilization could result in Pu which would be covered by this PEIS and, as explained above, such Pu is not subject to RCRA.

THOMAS, L. B., ALBUQUERQUE, NM
PAGE 2 OF 3

11 00 08 Comment Number 5

The Stockpile Stewardship and Management PEIS, which is referenced as related document in Chapter 1 of this Storage and Disposition PEIS, assesses pit refurbishment, stockpile management, and pit production capabilities.

include some impure oxides & metals, halide salts, combustibles, ash, sludges, and contaminated glass." These terms are clearly wastestreams. What is DOE's position?	4/01.02.00 cont.
10) To further argue the point in comment #9 please again note the wording on page 1-3. DOE states "portion of the residues will potentially be declared non-weapons-usable waste." This suggests DOE does not know whether it currently manages a solid waste. Thus DOE does not have a good handle on the material because it has not determined certain residues under its management are wastes. What is DOE's position?	1/01.00.00 cont.
11) Legally what is DOE's position as to why Pu residue stabilization isn't considered RCRA treatment? Please provide the legal citations to defend position. What are the impacts of Pu residue stabilization if it is considered RCRA treatment?	2/01.00.00 cont.
12) Legally what is DOE's position regarding why HEU and Pu is not considered a "scrap metal" or "precious metal" as defined and managed under RCRA? Please provide the legal citations to defend position.	1/01.00.00 cont.
13) Is it not conceivable that certain HEU and Pu weapon-usable fissile material currently in storage would not meet the current, scientifically prudent, and safety based QA/QC criteria for actual use on a nuclear weapon? Is it not true that this is partially because the DOE regards safety and reliability of utmost importance? A reasonable person could conclude that with or without expensive research into the recertification of old pits or a reduction in the safety and reliability QA/QC criteria, DOE would not successfully recertify dispositioned HEU and Pu pits back into the stockpile. Is it not reasonable to assume DOE would need to totally reprocess the pits or start from scratch (e.g. new production) to assure safety and reliability currently expected by the people of the United States?	2/01.00.00 cont.
14) When does the storage of HEU and Pu meet the definition of "accumulated speculatively" and "inherently waste-like" occur? Please provide written defense of the position utilizing regulatory citations.	1/01.00.00 cont.
15) To provide a reasonable response to comment #13. Yes or No, has DOE successfully tested dispositioned pits? For all current programs? Please respond in a classified appendix if necessary.	2/01.00.00 cont.
16) Since DOE does not prove in this EIS that it currently possesses an infrastructure to recertify dispositioned pits, then how can the decision maker effectively address where to put the pits? What proof does DOE provide in this document it has the ability to recertify? Further this connected action of recertification has not been analyzed for impacts to the storage and disposition EIS. Please assess impacts of this connected action? A reasonable person would believe the lack of discussion about the recertification capabilities current and future is a fatal flaw in the document. Also the impacts of restarting a production program has not been addressed (also a connected action) by this EIS should the recertification process fail. Please analyze and discuss the impacts to a new production program restart after a failed recertification program. DOE appears to be placing all its eggs in one basket without recognizing that once it selects storage and disposition there is no way back.	5/11.00.08 1/01.00.00 cont.
17) When does surplus fissile material meet the definition of a "solid waste"? Never?	5/11.00.08 cont.
18) Clearly DOE knows certain HEU and Pu materials are not worth making strategic, what proof does DOE have that strategic reserves could be placed back into the stockpile during a time of crisis? The decision maker needs to know. The free people of the United States need to know whether our freedom is at risk because DOE plans to reduce the deterrence factor without a proven capability of restoring the deterrence if threatened.	

Storage and Disposition of Weapons-Usable Fissile Materials Draft Programmatic Environmental Impact Statement-Comments

2

F-011

THOMAS, L. B., ALBUQUERQUE, NM
PAGE 3 OF 3

19) DOE and EPA. What if I just surplused lead-acid batteries to the ground (a form of land disposal like storage) why is my activity considered a violation of RCRA but storage and disposition of HCU and Pu is not? Please provide written defense of your position.	1/01.00.00 cont.
20) DOE and EPA. If Pu were considered a solid waste would one or all of the following apply: 40 CFR 261.21 (a)(2), 261.21 (a)(4), 261.23(a)(1), 261.23(a)(2), 261.23(a)(3), 261.23(a)(4), 261.23(a)(6)?	
21) Why isn't deep borehole and immobilization RCRA treatment/disposal? Please provide a written position using regulatory citations.	
22) What is EPA's position on comment #21?	6/04.00.00
23) Does deep borehole meet the definition of an injection well? Has DOE considered this in the impacts?	
24) Reconsider underground nuclear detonation. The test ban treaty might allow the disposition of warheads if no data is collected. Plus one detonation could be used to destroy multiple warheads or even pits. I would believe that Russian verification could be relatively easy.	7/01.05.00
25) Should consider underground nuclear detonation in Russia as an alternative.	
26) Question the accuracy of the DOE statement that underground nuclear detonation might result in a violation of regulatory and licensing requirements? Please tell me what regulatory and licensing requirements would be needed by DOE to disposition pits?	
27) Reconsider R12 since the surplus of helium exists. The helium surplus is located near Amarillo-thus a synergistic factor exists that the selection committee was not aware of. Further, the US government is responsible for the helium reserve and bring a lower solution to DOE.	8/02.00.08
28) I believe the requirement sections in 2.3.2 and associated subsections neglect a requirement of protecting the HCU and Pu repository from a large meteor and a kook's nuclear bomb. I am concerned DOE would store all the eggs in one basket without a highly protective configuration. Please all consider that the US stores patent documentation in a bomb proof repository. HCU and Pu should be equally protected.	
29) At a minimum, please use this material as a fuel for energy recovery, desalination of seawater, or desalination of brine for use in the arid Southwest.	7/01.05.00 cont.
30) Assess an alternative for desalination of salt water with weapon useable fissile material as a source of energy.	
31) Specifically, under what NEPA documentation is the storage and disposition of other materials not included in this EIS covered? How does that relationship impact this document?	5/11.00.08 cont.
32) Assess which facility would be best suited for re-certification of fissile material taking into account assembly experience, security infrastructure, storage capabilities, nonproliferation track record, etc.	
33) Please sent me a copy of the Final.	
Storage and Disposition of Weapons-Usable Fissile Materials Draft Programmatic Environmental Impact Statement-Comments F-011	

04 00 00 Comment Number 6

The Department of Energy recognizes that legislative and regulatory clarification may be required. The alternative was assessed even though legal clarification may be required, because the CEQ regulations that implement NEPA require consideration of a range of all reasonable alternatives.

01 05 00 Comment Number 7

The screening process and criteria used by DOE to identify reasonable alternatives are summarized in Chapter 2 and in a separate document entitled *Report of the Screening Process to Determine Reasonable Alternatives for Long-Term Storage and Disposition of Weapons-Usable Fissile Materials*. The NEPA coverage of storage and disposition of other materials is described in Section 1.4 of the PEIS. DOE continues to believe that underground detonation is an unreasonable alternative for disposition of fissile materials. Although DOE has considered your comment regarding desalination, the use of fissile materials as an energy source for desalination is indirectly included in the evolutionary LWR technology. The evolutionary LWR could be used for electricity generation or for some other heat or power source for a process such as desalination. Use of Pu for energy is evaluated in the PEIS in the Reactor Alternatives and, if selected in the ROD, licensing and further tiered NEPA analyses would be required.

02 00 08 Comment Number 8

Section 2.3.3.1 of the PEIS discusses security for the Collocation Alternative. Under the Collocation Alternative, material storage, material handling, and storage support would be located in a high security, protected area.

THOMPSON, GARY
PAGE 1 OF 2

Comment ID: P0044
Date Received: May 8, 1996
Name: Gary Thompson
Phone: (303) 966-6419

Transcription:

I had planned on faxing this, but I'll try to read it rapidly. First General Comment - We seem to be determined to eliminate our surplus materials, unilaterally if need be, in order to serve as an example to Russia and other nations. We are willing to do so whether or not Russia and other countries follow suit, and I've said this is our intention. We may expect other countries to do what they have said they will do. Keep materials in excess of those amounts needed for defense for use in reactors. Comments on the disposition alternatives - Deep borehole - Considering the amount of money already spent in digging holes in salt into salt and the citizens of the involved states dislike for accepting anything other than the money in creating the holes, this seems to be a scant reason to spend time and money on the borehole option. Plutonium immobilization - Most anti-nuclear activists and pacifists see vitrification as a way of preventing the fabrication of nuclear weapons components by the U.S. and weapons proliferation in other nations. While preventing proliferation is an admirable goal, our electing to immobilize plutonium in the hope that others will follow suit is naive. It is every bit as naive as President Carter's decision not to permit reprocessing spent fuel in the United States for the same reason - to serve as a good example to other nations. The United States is the only nuclear power that intends to dispose of plutonium in a waste, rather than use it as fuel. Once again, everyone is out of step in the nuclear parade except Uncle Sam. You can expect the same response from those whom we intend to influence, as they gave before. It would seem that it is too soon for us to rush to dispose of our plutonium in this manner. It would be more appropriate to recover and store it in 50 year cans. To borrow a phrase from our environmentalists and anti-nuclear friends, when any suggestion to do something in the near future with nuclear materials is made, why don't we wait for 20 years, until the new technology has been developed. If we are determined to treat plutonium as waste, it might be worth while to consider the option of immobilizing it perhaps by vitrification and placing it in the ocean in areas so deep that nothing save sediment exists and there's no evidence of life now or in ages past. Among other references, this subject is discussed in the book "Trashing the Planet" by Dick Silbury and Lou Guzo. Given the underlying opposition to dispose in New Mexico and Nevada and the fact that only one fourth of the earth is land, sea disposal should be at least worthy of consideration. It would also truly make the plutonium non-retrievable, since finding it and recovering it would be virtually impossible. Mixed Oxide Fuel - The point is often made that the MOX fuel option may not be cost-effective for us now, since we didn't develop fuel reprocessing technology. But what may happen in the future is another matter. Again, it seems to early to transmute this element made and recovered at great expense from treasure into trash. Burning it in a reactor would provide energy and transmute the plutonium into shorter lived actinides and fission products. Transmutation is the only way we have at this time to really "get rid of" plutonium. Final Comment - There is no decision that is acceptable to the public. That minuscule number of citizens who care for whatever reason. I would suggest abandoning work on any waste form of surplus fissile material other than vitrification. Properly formulated glass is an excellent waste form and has low leachability and

1/08.03.01

2/01.06.00

3/01.04.00

4/08.03.01

5/08.03.01

P-044

08 03 01 Comment Number 1

The Department of Energy recognizes the commentor's concern with the Borehole Alternatives. Decisions on the disposition alternatives will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

01 06 00 Comment Number 2

Comment noted.

01 04 00 Comment Number 3

The process and justification for selection of technologies evaluated in the PEIS are described in a separate Screening Report prepared by DOE. A number of alternatives involving placement of materials below the earth's surface were considered, including emplacement in the sub-seabed and injection into the earth's magma. There is little data available to support these options and the retention of Pu in these media is questionable. A major concern would be the environmental impacts of any release of Pu materials following emplacement. Furthermore, the time and cost of developing these technologies would be significant and the outcome uncertain. It is expected that regulatory requirements would be extremely difficult to achieve, particularly if international waters were involved. Therefore, these types of technology were eliminated from consideration.

08 03 01 Comment Number 4

The Department of Energy acknowledges the commentor's support for Pu disposition in reactors. Decisions on disposition will be made based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

08 03 01 Comment Number 5

The Department of Energy acknowledges the commentor's support for the Immobilization Alternative. Decisions on disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

THOMPSON, GARY
PAGE 2 OF 2

disparability, and if vitrification is the only politically-correct option, let's stop wasting money digging holes that will not likely be filled and evaluating other unacceptable techniques. Vitrification is expensive, but so is this vacillation from one untenable position to another. Thank you again for this opportunity to comment.

5/08.03.01
cont.

P-044

THORPE, MIGNON S., UPPER MONTCLAIR, NJ
PAGE 1 OF 1

June 5, 1996

U. S. DOE
Office of Fissile Materials Disposition
P.O. Box 23786
Washington, DC 20026-3786

Storage and Disposition of Weapons Usable Fissile Materials: MOX

I most strongly oppose the DOE plan to permit commercial nuclear reactors to use MOX, "mixed oxide", which is largely plutonium and uranium.

MOX presents such dangerous proliferation problems when used in commercial nuclear power plants. The plutonium in MOX can be rather easily separated from its other constituents. The extensive transportation to many parts of the United States and Canada presents many hazards beyond those of accidents releasing radioactivity. It should certainly necessitate military protection as should the fuel while in storage. Terrorism is an escalating problem. There are many groups who would want to acquire MOX or the plutonium separated from it.

Furthermore, the use of MOX as fuel in commercial reactors would substantially increase the volume and the radioactivity of the nuclear waste.

The cost of one, possibly two, new plants to process the MOX would be \$1 billion or more.

These dangers and expenses are inexcusable when there are at least two options already identified for plutonium: continued storage and vitrification.

Please do not make permit these long-term dangers, inherent in the use of MOX in commercial nuclear reactors, to be authorized. The world has already had too many accidents and near accidents, and exposure to low-level radiation continues to increase. Don't add this totally unnecessary new threat to our health and safety.

Sincerely yours,

Mignon S. Thorpe

128 Mountain Ave.
Upper Montclair
NJ 07043

1/08.03.01

08 03 01

Comment Number 1

The Department of Energy acknowledges the commentor's opposition to the Reactor Alternative using MOX fuel. Decisions on disposition of weapons-usable fissile materials will be made based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

M-262

TURNER, CHARLES W., SEATTLE, WA
PAGE 1 OF 3

14.00 00 Comment Number 1

Comment noted.

Charles W. Turner
6323-5th Ave. N.E.
Seattle, WA 98115-9317
Telephone 206-523-0166
May 2, 1996

U.S. Dept. of Energy
Office of Fissile Materials Disposition
P.O. Box 23786
Washington, DC 20026-3786

To Whom It May Concern:

Starting in 1970, I decided to try to find out what elements were abundant in the earth's crust in the Pacific Northwest. At least in the part of the world from which I could conveniently collect my own rock samples.

As a result of having collected several hundred samples (of rocks, sands, clays, and a few other materials of geologic origin), and after analyzing a number of these samples, I realized that stable, non-radioactive isotopes of the actinide elements did indeed exist, and in some places were very abundant, and easy to get.

I attended a Plutonium Forum, sponsored by nine different organizations, one of which was the U.S. Dept. of Energy, on Tuesday evening, April 30, in Seattle. All of those attending were asked to submit comments on a blue form (one of which is enclosed).

In view of the existence of stable, non-radioactive isotopes of the actinide elements, I believe that not the first two options listed can be modified to include the safe disposal or even make possible a safer storage of radioactive materials of all kinds.

I propose that the radioactive Plutonium be dissolved in hydrochloric acid, adding a minimum quantity of nitric acid, if necessary, and adding the resulting solution to a hydrochloric acid solution of non-radioactive actinide elements, and adding oxalic acid and then sodium hydroxide or sodium carbonate to precipitate the oxalates.

(Unless you already have sufficient data, the relative amounts of radioactive and non-radioactive elements to prevent the accumulation of any dangerous critical mass of radioactive elements would have to be determined by experiment.)

The oxalates, after being removed from the solution, can be either stored as such safely enough in drums, or they can be heated to form oxides, which can either be stored as such, or can be vitrified with other constituents to form a glass or a ceramic.

1/14.00.00

M-126

TURNER, CHARLES W., SEATTLE, WA
PAGE 2 OF 3

(2)

If you feel that my proposal makes sense, and that you would like to have a small amount of some of these non-radioactive actinide elements, I would be glad to give you a few hundred grams of a few of these elements, in the form of oxides or hydroxides.

There would be no charge for a small quantity for testing and evaluation.

Very truly yours,

Charles W. Turner

M-126

TURNER, CHARLES W., SEATTLE, WA
PAGE 3 OF 3

Storage and Disposition of Weapons-Usable Fissile Materials Draft Programmatic EIS
Environmental Impact Statement (EIS) Public Comment Form

Name (optional): Charles W. Turner, Jr.
Address (optional): 3233 S. Alameda, N.E.
Seattle, WA 98105-6517

Please write down your comments and drop this form in the marked boxes before you leave tonight. These forms will be submitted to the Department of Energy as part of the formal comment on this EIS. If you are unable to complete this form tonight, written comments can be mailed to:

Department of Energy
Office of Fissile Materials Disposition
P.O. Box 21786
Washington, D.C. 20026-3786

or you can call this toll-free number to leave comments by phone: 1-800-820-5156. Comments must be submitted by May 7, 1996.

The Department of Energy has identified three types of technologies as options for disposing of weapons-usable fissile materials. The Department has also considered a "no action alternative" which would result in long-term storage of these materials. Please write down your comments on the following three types of options for disposal and the storage option.

1. Materials Immobilization/Vitrification - Immobilize fissile materials by mixing them with glass, glass bonded zeolites, or ceramics.

2. Deep borehole disposal - Materials would be disposed in boreholes at least 2.5 miles deep, in geologically stable formations. Materials could be disposed directly into the deep borehole, or materials could be immobilized first, and then deposited into the deep borehole.

3. Reactor Options - Surplus plutonium/highly enriched uranium would be made into MOX fuel for use in nuclear reactors, destroying by fission a major portion of the weapons grade materials.

4. Storage Options - USDOE would continue existing storage practices for weapons-usable fissile materials at current locations and/or consolidate that storage at one or more of the designated sites.

M-126

UNITED STATES ARMS CONTROL AND DISARMAMENT AGENCY,
WASHINGTON, DC, DAN FENSTERMACHER
PAGE 1 OF 13

NUCLEAR SAFEGUARDS AND TECHNOLOGY DIVISION
BUREAU OF NONPROLIFERATION POLICY



UNITED STATES ARMS CONTROL AND DISARMAMENT AGENCY
320 21st St., N.W., Rm. 4004
Washington, DC 20451

FAX COVER SHEET

TO: DOE/ND-1 -- David Nulton

FAX NUMBER: 586-4078

DATE: May 7, 1996

FROM: Dan Fenstermacher

FAX NUMBER: (202) 647-4467 (fax)

PHONE NUMBER: 647-2833 (direct line/audix) -1140 (secretary)

MESSAGE:

COMMENTS ON DRAFT PEIS ON DISPOSITION

Attached are written comments and selected pages with comments in the margins. These are preliminary comments only, and not meant to imply ACDA concurrence with the entire Draft PEIS.

PAGE ONE OF 13

IF PAGES ARE NOT RECEIVED, PLEASE CALL: (202) 647-2833.

F-042

1. One point stands out in particular -- the phrase "peaceful beneficial reuse whenever possible" on p. 5-5 must be deleted. Since disposition of surplus HML is covered in a separate PEIS, this phrase directly implies that re-use of Pu is in our interest "whenever possible," which is in direct contradiction to our national policy (cf. P. A-2 for U.S. policy on non-encouragement of civil use of Pu). The criteria listed on pp. 2-6 and 2-7 correctly make no mention of "re-use" of Pu as a desirable, but the language on p. 5-5 is incorrect.	1/01.04.00
2. Conceptually, there is also a confusion with the formulation of the MOX option on p. 5-7. If that box is meant to describe MOX as it relates to the "disposition alternative," then it must add the phrase "and subsequent use of that fuel in a reactor." Otherwise, it implies that fresh MOX is a suitable endpoint that meets the spent fuel standard, which it does not.	2/06.01.08
3. Finally, the "destinations" at the end of the disposition alternatives in the figure on p. 8-11 are confusing. Since the figure gives the destination "Domestic High Level Waste Repository" for Immobilization and Reactor options, but "Deep Borehole" for the deep borehole option, it implies that the PEIS is comparing the immobilization and reactor options all the way through to the final repository. I had understood this not to be the case, but rather that the options were being compared only through the achievement of the "spent fuel standard," which is achieved during "interim" storage of the vitrified forms or in spent fuel pools (or dry storage) for the reactor options. This figure should not imply that the more difficult problem of ultimate repositories is being addressed in the comparison as well. I've proposed a wording fix in the margins.	3/12.00.00

F-042

01 04 00 Comment Number 1

The Department of Energy agrees that this phrase is inaccurate. It has been removed from the PEIS.

The specific purpose of DOE's PEIS effort is to evaluate alternatives for the disposition of surplus weapons-usable Pu that would render the Pu as inaccessible and unattractive for reuse in nuclear weapons as the much larger and growing quantity of Pu that exists in spent nuclear fuel from commercial power reactors. This condition is referred to as the Spent Fuel Standard. If an alternative using MOX fuel in reactors is selected, the surplus Pu would eventually be contained in spent fuel and, by definition, the Spent Fuel Standard would be achieved.

While the PEIS discusses the generation of spent fuel as an indirect result of potential disposition actions, any subsequent reprocessing and extraction of Pu from that spent fuel is beyond the scope of the PEIS and the fundamental nonproliferation purpose of the disposition effort. The fact that the PEIS evaluates disposition of surplus weapons Pu through use in MOX fuel, but does not further evaluate reprocessing of the spent fuel, does not foreclose policy or technology options, nor does it prejudice further decisions regarding the management or disposition of the spent fuel.

06 01 08 Comment Number 2

Comment noted. It is DOE's intent to use the MOX fuel in a reactor to achieve the Spent Fuel Standard. Also, in the cases of the Reactor Alternatives and the Immobilization Alternatives, DOE would process the material to the Spent Fuel Standard, but would not include geologic emplacement as a part of the material disposition program. Geologic emplacement of the material forms for these alternatives in the NWPA-HLW management system could be subsequently implemented.

12 00 00 Comment Number 3

Comment noted. This figure has been modified to clarify that the NWPA-HLW repository is not included in the scope of the environmental analysis.

UNITED STATES ARMS CONTROL AND DISARMAMENT AGENCY,
WASHINGTON, DC, DAN FENSTERMACHER
PAGE 3 OF 13

results of the NEPA process will identify plans for fulfilling the Nation's weapons-usable fissile materials storage needs well into the next century. These decisions are as follows:

For storage:

- The strategy for long-term storage of weapons-usable Pu and nonweapons HBU
- The storage site(s)

For disposition:

- The strategy and technologies for disposition of surplus weapons-usable Pu

The Department, with interagency coordination, will then issue the ROD. Following the ROD, tiered project-specific NEPA documents will be prepared, as necessary.

DEVELOPMENT OF ALTERNATIVES

This PEIS analyzes a number of reasonable alternatives for storage and disposition, in addition to the No Action Alternative. The Department used a screening process along with public input to identify a range of reasonable alternatives for the storage and disposition of weapons-usable fissile materials. The process was conducted by a screening committee that consisted of experts from DOE advised by technical advisors from the Department's national laboratories and other support staff. The committee was responsible for identifying the reasonable alternatives to be evaluated. It compared alternatives against screening criteria, considered input from the public, and utilized technical reports and analyses from the national laboratories and industry to develop a final list of alternatives.

The first step in the screening process was to develop criteria against which to judge potential alternatives. The criteria were developed for the screening process based on the President's Nonproliferation and Export Control Policy of September 1993, the *Joint Statement Between the United States and Russia on Non-proliferation of Weapons of Mass Destruction and the Means of Their Delivery* of January 1994, and the analytical framework established by the NAS in its 1994 report, *Management and Disposition of Excess Weapons Plutonium*. The criteria include nonproliferation, security, environmental, safety, and health; timeliness and technological viability; cost-effectiveness; international cooperation; and public input. The screening process was a public process, and participants were invited to comment further using questionnaires. The questionnaires allowed participants to rank criteria based on relative importance, comment on the appropriateness of the criteria, and suggest new criteria. Details on how the screening process was developed and applied, and the results obtained from the process, were published in a separate report (*Summary Report of the Screening Process to Determine Reasonable Alternatives for Long-Term Storage and Disposition of Weapons-Usable Fissile Materials*, DOE, March 1995).

Development of Long-Term Storage Alternatives

For long-term storage, DOE began with five potential action alternatives (see Figure S-2), as well as the No Action Alternative. The screening process identified two action alternatives as reasonable: (1) upgrade existing storage facilities and (2) consolidate storage at DOE sites. The second alternative was later refined and converted into two alternatives: consolidate Pu storage at one site (while HBU storage remains at Oak Ridge Reservation [ORR]), and collocation of Pu and HBU storage at one site. Each action alternative was further refined by dividing storage of the nonweapons material (existing materials in use) into two subcategories for analysis. One subcategory for each action alternative includes storage of strategic reserves, programmatic

materials, and naval nuclear fuel—that is, the combined storage of the nonusable materials (excluding materials in use). Another subcategory includes naval nuclear fuel, but excludes the strategic reserves and defense-related programmatic materials that are being analyzed in the *Programmatic Environmental Impact Statement for Stockpile Stewardship and Management* (Stockpile Stewardship and Management PEIS). In this way, a full range of reasonable storage alternatives is analyzed. Therefore, a total of three reasonable long-term storage alternatives (with subalternatives and options), in addition to the No Action Alternative, were selected for analysis in the PEIS.

To select candidate sites for long-term storage, DOE used a separate set of siting criteria consistent with those used in the evaluation of sites for reconfiguration of the Nuclear Weapons Complex in February 1991. The siting criteria included population; environment, safety, and health; socioeconomic; transportation; and site availability and flexibility. The process resulted in six candidate storage sites: Hanford Site (Hanford), Nevada Test Site (NTS), Idaho National Engineering Laboratory (INEL), Pantex Plant (Pantex), ORR, and Savannah River Site (SRS).

Development of Long-Term Storage Subalternatives
With the exception of weapons program materials in use, this PEIS analyzes the environmental impacts of reasonable alternatives for long-term storage of all surplus and nonusable weapons-usable fissile material categories (see Figure 5-1). In DOE's Stockpile Stewardship and Management PEIS, a portion of the nonusable (weapons-usable) fissile materials, namely the strategic reserve materials and the Pu-242 materials used for weapons R&D, is being analyzed for long-term storage at only ORR, Pantex, and NTS. For this reason, the Storage and Disposition PEIS includes a subalternative analyzing the environmental effects of each long-term storage alternative without this portion of the materials. Both documents are analyzing the same resources and environmental issues affected by the proposed actions. Recommended preferred alternatives will be presented to the Secretary on both PEIS's before the Secretary's decision and the publication of the RODs.

Because of mission changes, the proximity of Rocky Flats Environmental Technology Site (RFETS) to the Denver metropolitan area, and the fact that three out of the top five facilities identified in DOE's *Plutonium Working Group Report on Environmental, Safety, and Health Vulnerabilities Associated With the Department's Plutonium Storage* (November 1994) are located at the site, RFETS is considered as a storage site only under the No Action Alternative in the Storage and Disposition PEIS. For other long-term storage alternatives, existing Pu stored at RFETS would be moved to one or more other Pu storage sites.³ Therefore, DOE developed a subalternative under the Upgrade at Multiple Sites Alternative to analyze the storage of all or some Pu from RFETS at each candidate site.

Development of Disposition Alternatives
For disposition, DOE began with 37 potential action alternatives (see Figure 5-3), as well as the No Action Alternative. Using the same criteria as for long-term storage, DOE identified 11 reasonable alternatives for surplus Pu disposition: (1) deep borehole (immobilization), (2) deep borehole (direct emplacement), (3) immobilization in glass immobilization, (4) ceramic immobilization, (5) electrometallurgical treatment, (6) immobilization in glass immobilization, (7) Eurochem mixed oxide (MOX) fuel fabrication, (8) immobilization in light water reactors (LWRs), (9) partially completed LWRs, (10) evolutionary or advanced LWRs, and (11) Canadian Deuterium Uranium (CANDU) reactors. Upon further study of supply/demand conditions for Eurochem MOX fuel and due to lack of maturity of the technologies for boronized glass immobilization, DOE deleted alternatives (6) and (7). However, MOX fuel fabrication (not just reactor burning) at Eurochem

³ Small quantities of weapons-usable fissile material from two additional sites, Los Alamos National Laboratory and Lawrence Livermore National Laboratory, will be analyzed at the Final Storage and Disposition PEIS. The materials at these sites consist of small amounts of recently declared surplus Pu and Pu materials inventory in active program use. The Draft Storage and Disposition PEIS only analyzes the transportation impact of these materials to other storage sites.

Summary

Facilities require a reasonable short-term storage for the existing LWR Alternative. Therefore, a total of nine reasonable disposition alternatives, in addition to the No Action Alternative, were selected for analysis in the PEIS. These alternatives were grouped into three alternative categories: Deep Repository, Immobilization, and Reactor.

Facilities under each alternative within the Immobilization and Deep Repository Categories could be designed such that they could process all the surplus Pu over their operating lives. Each disposition alternative under the Reactor Category would consider of reactions that could consume all the MOX fuel produced from surplus Pu. However, because existing surplus Pu comes in various forms, and some of these forms may not be suitable for conversion to MOX fuel, the disposition of surplus weapons-usable Pu may involve a combination of disposition alternatives.

Deep Repository

A baseline extended several kilometers below the water table into ancient, geologically stable rock formations.

Pu Immobilization

A process that immobilizes Pu to create a chemically stable form for disposal.

Mixed Oxide Fuel

A blend of uranium dioxide (UO_2) and plutonium dioxide (PuO_2) that produces a fuel suitable for use in a nuclear reactor to generate electric power and CO_2 free energy.

The Storage and Disposition PEIS identifies the reasonable long-term storage and disposition alternatives as follows:

Long-Term Storage

- Long-Term Storage Alternatives
 - Upgrade at existing SRS Alternative
 - Construction of Pu Alternative
 - Collocation of Pu and FRED Alternative
- Candidate Storage Sites
 - Hanford
 - NTS
 - INEL
 - Pusan
 - ORE
 - SRS

UNITED STATES ARMS CONTROL AND DISARMAMENT AGENCY,
WASHINGTON, DC, DAN FENSTERMACHER
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Summary

A preferred alternative has not yet been identified. Upon consideration of comments on this draft document and after completion of technical, schedule, cost, and policy assessments, DOE will identify a preferred alternative in the Final Storage and Disposition FEIS.

NO ACTION AND LONG-TERM STORAGE ALTERNATIVES

No Action Alternative

The No Action Alternative for storage and disposition of weapons-usable fissile materials consists of two parts: (1) no change in current storage locations for Pu and HEU and (2) no disposition of surplus Pu. DOE may choose part one, part two, or both parts of the No Action Alternative. (If only part one is chosen, no change in current long-term storage will take place; other than environmental and safety upgrades. Therefore, existing storage facilities at DOE sites would be used for continued storage of HEU and surplus Pu (the No Action Alternative for these materials), while ~~disposition would be made for surplus Pu disposition~~ (If only part two is chosen, disposition of surplus Pu will not occur, and this material would remain in storage. Therefore, decisions on long-term storage would become the "No Disposition Action" for surplus Pu. If both parts are chosen, an Pu disposition and no change in current storage of Pu and HEU will occur. This case is being analyzed in the Storage and Disposition FEIS as the baseline case for the No Action Alternative.

Under the No Action Alternative, all weapons-usable fissile materials would remain in existing storage facilities. Maintenance at existing storage facilities would be done as required to ensure safe operation for the balance of the facility's useful life. Sites covered under the No Action Alternative include: Hanford, INEL, Pantex, ORR, SRS, and RFETS. Although there are no weapons-usable fissile materials within the scope of this FEIS stored currently at NTS, NTS is analyzed under No Action to provide an environmental basis against which impacts of the storage and disposition alternatives are analyzed.

Upgrade of Multiple Sites Alternative

Under this alternative, DOE would either modify certain existing facilities or build new facilities, depending on the site's requirements to meet standards for nuclear material storage facilities, and would utilize existing site infrastructure to the extent possible. These modified or new facilities would be designed to operate for up to 50 years. Pu materials currently stored at Hanford, INEL, Pantex, and SRS would remain at those four sites, and HEU would remain at ORR. Currently, NTS does not store weapons-usable fissile materials that are within the scope of this FEIS and, therefore, it is not a candidate site for this alternative.

A subalternative of relocating the Pu inventory (approximately 12.7 t (14.0 tons), as stated in the DOE's Openness Initiative of February 6, 1996) from RFETS to one or more of the four existing Pu storage sites is analyzed. Storage without strategic reserve and weapons R&D programmatic materials is also included as a subalternative to coordinate with analysis in the Stokholm Stewardship and Management FEIS.

Within each of the five candidate storage sites under this alternative, there are one or more storage options. A summary of these options is presented in Table S-1.

Consolidation of Materials Alternative

Under this alternative, Pu materials at existing sites would be removed, and the entire DOE inventory of Pu would be consolidated at one site, while the HEU inventory would remain at ORR. Again, the four sites with existing Pu storage are candidate sites for Pu consolidation. In addition, NTS and ORR are candidate sites for this alternative. Consolidation of Pu at ORR would result in a situation in which inventories of Pu and HEU are collocated at one site.

F-042

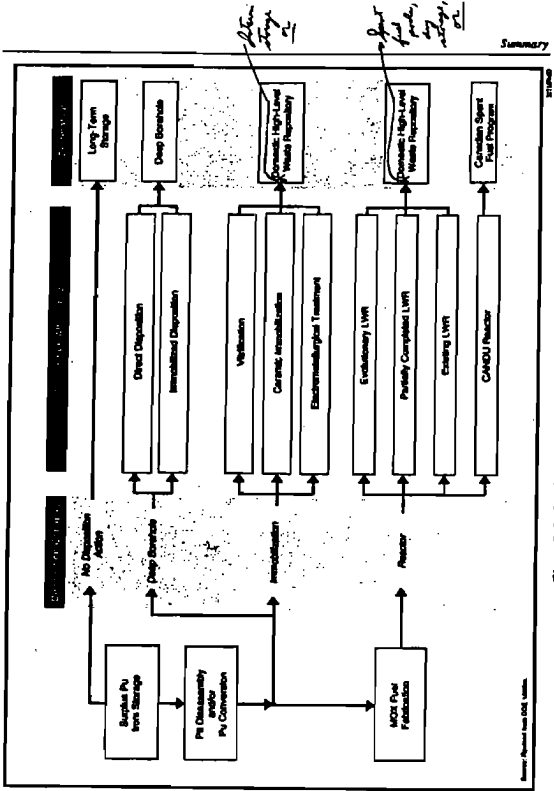
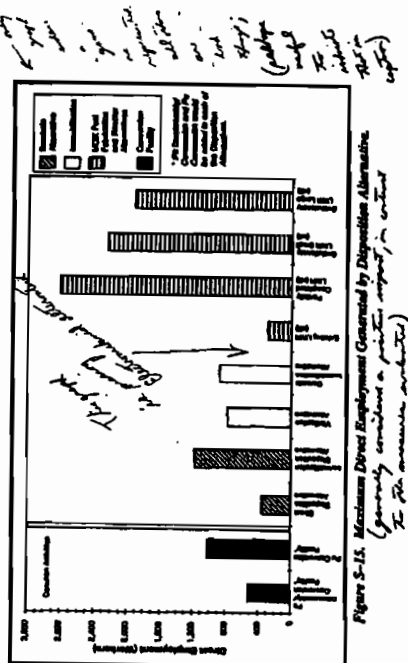
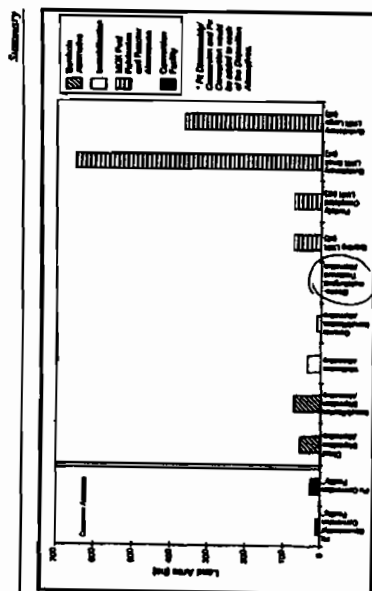


Figure S-3. Surplus Fissile Material Disposition Alternatives.



personnel resources, public and occupational health and safety, and interstate transportation could be susceptible to adverse cumulative impacts. At SRS, waste management and public and occupational health and safety would be vulnerable, and air quality, cultural and paleontological resources, environmental justice, and interstate transportation could be susceptible to adverse cumulative impacts.

Idaho National Engineering Laboratory, NTS, and Hanford would be the least vulnerable to cumulative impacts from the disposition alternatives. At INEL, waste management and socioeconomic (local transportation) would be vulnerable, and air quality, biological resources, cultural and paleontological resources, public and occupational health and safety, and interstate transportation could be susceptible to adverse cumulative impacts.

At NTS, waste management would be vulnerable, and air quality, biological resources, cultural and paleontological resources, public and occupational health and safety, and interstate transportation could be susceptible to adverse cumulative impacts. At Hanford, waste management would be vulnerable, and air quality, biological resources, cultural and paleontological resources, public and occupational health and safety, and interstate transportation could be susceptible to adverse cumulative impacts.

When the other DOE programs previously identified in this section are considered, the rank order of DOE sites in terms of their descending potential for cumulative impacts changes to SRS, Paines, ORR, INEL, Hanford, and NTS. More detailed, site-specific, cumulative impact analysis will be provided in subsequent final NEPA documentation once the disposition strategy and technology has been selected.

COMPARISON OF ALTERNATIVES

The environmental impacts of the storage and disposition alternatives are presented in comparative form in this section. The emphasis is on those environmental resources and issues of interest to the public that discriminate between the alternatives and provide a clear basis for choice by the decisionmaker. Data for the key discriminators are presented in the Figures 5-32 through 5-44, with the exception of visual resources, which are not presented graphically.

Long-Term Storage Alternatives

The impact analysis presented in this Storage and Disposition PEIS indicates that the three long-term storage alternatives would have no or negligible impacts to the infrastructure, noise, and geology and soils.

Potential impacts to cultural and paleontological resources exist for all alternatives whenever there is ground disturbance for construction, with no real differences among the three alternatives other than greater land disturbance for the Consolidation and Collocation Alternatives.

Impacts to air quality, although the potential exists, would similarly be minor and limited to the construction period, with no real differences among the three alternatives. While there would be no or negligible impacts to community services, there would be some loss of service on local roads during construction for all three alternatives; the additional employment and income generated by each alternative would be positive, with the most employment generated by the Collocation Alternative. There would be potential adverse impacts to land-use, because conflicts exist with existing site land-use plans, policies, and controls at several of the DOE sites for the Consolidation and Collocation Alternatives, but not for the Upgrade Alternative. The Collocation Alternative is the only long-term storage alternative that would have adverse visual resource impacts (at ORR). For all of these resources, the No Action Alternative would have the least impact, because no site disturbance is involved.

The water resource requirements for the Consolidation and Collocation Alternatives are greater than for the Upgrade Alternative, both in terms of water consumption and water discharges. Water resource requirements are the greatest for the Collocation Alternative at all DOE sites. The No Action Alternative would have the least

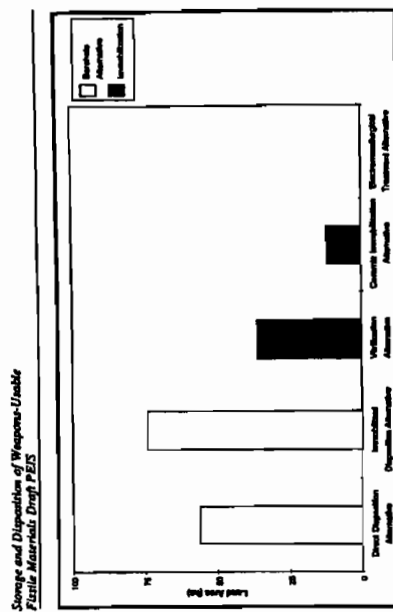


Figure S-32. Operations Lead Use by Borehole and Immobilization Alternative.

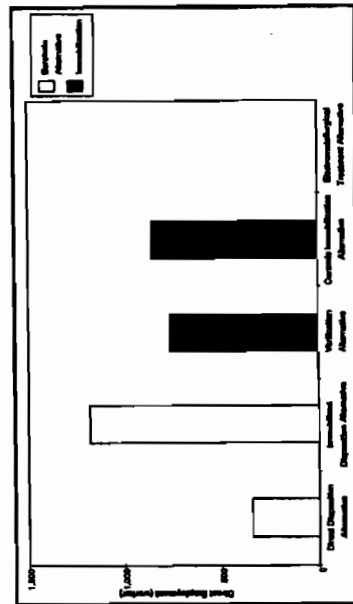


Figure S-33. Direct Employment Generated by Borehole and Immobilization Alternative.

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Storage and Disposition of Weapons-Usable
Fissile Materials Draft PEIS

VOL. 1

As in the case of temporary pit storage, the materials to be placed in long-term storage include Pu pits. However, they also include oxides and other dispersible material forms that may require treatment and repackaging not needed for pits. There are ESHH concerns associated with locating these operations in proximity to the metropolitan Albuquerque area. Furthermore, there is insufficient land area available to construct the necessary direct support facilities needed for analysis, repackaging, accounting, and waste management.

The Manzano storage area would also create a new non-DOE nuclear material storage site when a number of DOE sites are already available. The Screening Committee report (DOE 1995a) concluded that it is not cost-effective to establish a new site infrastructure that would increase investment, storage, and lifecycle costs for handling, treating, and safeguarding these Pu materials. Therefore, Manzano is not analyzed as a reasonable alternative for long-term storage of either metal or non-metal Pu forms.

The utilization of non-domestic sites for long-term storage was proposed, but was eliminated from further consideration because it was not able to address all of the long-term storage requirements. These requirements include the storage of the materials set aside as strategic reserves for defense purposes, which are not appropriate to locate outside the United States. This option was disqualified in the screening process because the risk of theft or diversion by unauthorized parties would be greater than those involved in the utilization of domestic sites. Safeguard and security of nuclear materials are also enhanced by the domestic law enforcement infrastructure, which would not be easily coordinated outside the United States. Figure 2.1.3-2 shows the long-term storage options that were considered and rated based on the seven screening criteria and the principal reasons for disqualification or elimination.

STORAGE OPTIONS



Figure 2.1.3-2. Results of the Screening Process—Long-Term Storage Options.

2.1.4 REASONABLE ALTERNATIVES FOR THE DISPOSITION OF SURPLUS PLUTONIUM

Screening Criteria for Disposition Options

Resistance to Theft and Diversion by Unauthorized Parties. Each step in the disposition process must be capable of providing for comprehensive protection and control of weapons-usable fissile materials.

Resistance to Sabotage, Extractions, and Release by Host Nations. The surplus material must be made highly resistant to potential use in weapons to reduce reliance on institutional controls and demonstrate that the area reductions will not be easily reversed.

Technical Viability. There should be a high degree of confidence that the alternative will be technically successful.

Environmental, Safety and Health Compliance. High standards of public and worker health and safety, and environmental protection must be met, and significant additional ESHH burdens should not be created.

Cost-Effectiveness. Disposition should be accomplished in a cost-effective manner and be compatible with reasonable long-term storage alternatives.

2-4

Weapons-Usable Flexible Materials Long-Term Storage and Disposition Alternatives

agreements progress and cooperation with Russia and other countries. The alternative must establish appropriate standards for the disposition of surplus weapons-stable fuel, material inventories and support organizations for bilateral or multilateral reductions in these materials, and each step in the disposition process must allow international inspections.

Additional Benefits. The ability to leverage government investments for disposition of surplus materials to contribute to other national or international initiatives should be considered. *See the next.*

Requirements of the Screening Process: Reasonable Alternatives for Surplus Production Dispositions

As a result of the screening process for surplus Fu components, three alternative categories of alternative alternatives are considered reasonable. The alternative categories are the deep borehole alternatives, the immobilization category, and the reactor category.

Deep Borehole Category. Within this category, surplus weapons-usable Pu would be employed in a 6-yr borehole several kilometers below the water table into ancient, geologically stable rock formations. The borehole would be sealed to isolate the Pu from the accessible environment.

Two dozen bottleneck alternatives were analyzed for this PEIS:

- **Direct Disposition Alternative—**direct emplacement of canisters containing Po forms that have not been immobilized
- **Immobilized Disposition Alternative—**Po immobilized in ceramic pellets (without the addition of high-energy, gamma-emitting radionuclides) will be mixed with grout and emplaced without canisters

[illegible]

Immobilization Category. Within this category, surplus Pu would be immobilized in an acceptable matrix to create a chemically stable form for disposal in an HLW repository. The immobilized Pu would be mixed with HLW or other radioactive isotopes to create a maturation field that enhances proliferation resistance to meet the Second Pool Standard.

These immobilization alternatives were analyzed for the PEIS:

- **Vitrification Alternative**--building a new facility to produce a glass waste form that embeds Pu and radioisotopes within the glass form

UNITED STATES ARMS CONTROL AND DISARMAMENT AGENCY,
WASHINGTON, DC, DAN FENSTERMACHER
PAGE 13 OF 13

Storage and Disposition of Weapons-Usable
Fissile Materials Draft PEIS

VOL. 3

Conventional Arms Transfers

We will actively seek greater transparency in the area of conventional arms transfers and promote regional confidence-building measures to encourage restraint on such transfers to regions of instability. The U.S. will undertake a comprehensive review of conventional arms transfer policy, taking into account national security, arms control, trade, budgetary and economic competitiveness considerations.

A-3 JOINT STATEMENT ON NONPROLIFERATION OF WEAPONS OF MASS
DESTRUCTION AND THE MEANS OF THEIR DELIVERY

THE WHITE HOUSE

Office of the Press Secretary

JOINT STATEMENT
BY THE PRESIDENT OF THE RUSSIAN FEDERATION
AND
THE PRESIDENT OF THE UNITED STATES OF AMERICA

ON NONPROLIFERATION OF WEAPONS OF MASS DESTRUCTION
AND THE MEANS OF THEIR DELIVERY

(transmission)
joint to G. Thompson + immediately, etc. are all missing here
President Clinton and President Yeltsin, during their meeting in Moscow on January 16, 1994, agreed that the proliferation of weapons of mass destruction and their missile delivery systems represents an acute threat to international security in the period following the end of the Cold War. They declared the resolve of their countries to cooperate actively and closely with each other, and also with other interested states, for the purpose of preventing and reducing this threat.

The Presidents noted that the proliferation of nuclear weapons creates a serious threat to the security of all states, and expressed their intention to take energetic measures aimed at prevention of such proliferation.

- Considering the Treaty on the Non-Proliferation of Nuclear Weapons as the basis for efforts to ensure the nonproliferation of nuclear weapons, they called for its indefinite and unconditional extension at conference of its participants in 1995, and they urged that all states that have not yet done so accede to this treaty.

- They expressed their resolve to implement effective measures to limit and reduce nuclear weapons. In this connection, they advocated the most rapid possible entry into force of the START I and START II treaties.

- They agreed to review jointly appropriate ways to strengthen security assurances for the states which have renounced the possession of the nuclear weapons and that comply strictly with their nonproliferation obligations.

- They expressed their support for the International Atomic Energy Agency in its efforts to carry out its safeguards responsibilities. They also expressed their intention to provide assistance to the Agency in the safeguards field, including through joint efforts of their relevant laboratories to improve safeguards.

- They supported the Nuclear Suppliers Group, and agreed with the need for effective implementation of the principle of full-scope International Atomic Energy Agency safeguard as a condition for nuclear exports with the need for export controls on dual-use materials and technology in the nuclear field.

- They reaffirmed their continuing commitment to the conclusion as soon as possible of a...

A-4 → next 3 pages missing from PEIS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,
DENVER, CO, C. MARK AGUILAR
PAGE 1 OF 2



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII
989 16th STREET - SUITE 800
DENVER, COLORADO 80202-2448

Ref: RPRP-F

J. David Nelson
Director, NEPA Compliance & Outreach
Office of Fissile Materials Disposition
Forrestal Building
1000 Independence Ave., SW
Washington, D.C. 20585

SUBJECT: ROCKY FLATS COMMENTS - STORAGE AND DISPOSITION
OF WEAPON-USABLE FISSILE MATERIALS DRAFT
PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT
(PEIS)

Dear David:

As requested, we are providing you with our written comments on the Storage and Disposition of Weapon-Usable Fissile Materials Draft Programmatic Environmental Impact Statement (PEIS). These comments will be general in nature but reflect specific sections within the document.

General Comments:

EPA has two primary concerns that we feel must be strongly addressed and they are as follows:

1) I am aware that the "no action alternative" is used in all remedial actions as a base line for other alternatives. But in the case at Rocky Flats that alternative can not be considered based on promises by EPA, CDPHR, and DOE to the public that PU will be removed from Rocky Flats starting no later than 2010 and completing no later than 2015.	1/01.06.00
2) It is strongly recommended that DOE be focused on reducing the processing and handling of fissile materials. This recommendation has multiple benefits, it protects the health and safety of the workers and the public, as well as the integrity of the environment at the site(s).	2/01.00.00

F-045

01 06 00 Comment Number 1

The Council on Environmental Quality regulations implementing NEPA require DOE to analyze the No Action Alternative.

01 00 00 Comment Number 2

Comment noted. Your comment, along with public comments, the PEIS, cost information, nonproliferation analysis and policy analysis will be considered by DOE in the ROD for the storage and disposition of weapons-usable fissile materials.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,
DENVER, CO, C. MARK AGUILAR
PAGE 2 OF 2

01 06 00 Comment Number 3

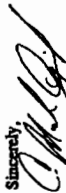
Comment noted. As noted in the PEIS, DOE is proposing to implement the U.S. Nonproliferation Policy and set and example for other countries. The various action alternatives for disposition would implement the U.S. Nonproliferation Policy by disposing of surplus weapons-usable Pu, so as to encourage similar actions by other countries. Various activities under the storage and disposition alternatives would be subject to "independent" IAEA inspections, and, under the Reactor Alternatives, domestic reactors would be subject to "external" NRC licensing. Certain wastes generated by the various alternatives would also be subject to "external" regulations by EPA or State regulators.

Again, it is strongly recommended that DOE implement the U. S. non-proliferation policy to include other countries. Additionally, DOE should be subject to external and independent regulations which could justify further funding for these efforts.

3/01.06.00

If you have an questions please feel free to contact me at (303) 312-6251.

Sincerely,



C. Mark Aguilar
Remedial Project Manager

F-045

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,
WASHINGTON, DC, RICHARD E. SANDERSON
PAGE 1 OF 5



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
ENVIRONMENTAL AND
COMPLIANCE ASSISTANCE

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

Dear Mr. Nulton:

The Environmental Protection Agency (EPA) has reviewed the Department of Energy's (DOE) Storage and Disposition of Weapons-Usable Fissile Materials Draft Programmatic Environmental Impact Statement (PEIS). Our review is provided pursuant to the National Environmental Policy Act and Section 309 of the Clean Air Act.

The proposed action is long-term storage of weapons-usable plutonium and highly enriched uranium, and the disposition of surplus weapons-usable plutonium. The draft PEIS analyzes the potential environmental effects of four long-term storage alternatives at six potential sites, and ten plutonium disposition technology alternatives. EPA has raised the potential EC-2, environmental concerns - insufficient information. We recommend that the DOE provide additional information and clarity concerning several issues common to all the alternatives including: accident risk analysis, cumulative impacts, and environmental justice. In particular, more information on the assumption inputs to the MELCOR Accident Consequence Code System model could greatly enhance the public's understanding of the differences in safety risk between alternatives if an accident were to occur. Currently, the PEIS provides only limited review of the model but relies heavily on it to conclude that there is little danger to the public from accidents and little difference in accident risk among the alternatives considered. Further discussion could strengthen the credibility of these conclusions. An explanation of EPA's ratings is provided in Enclosure 1. Detailed comments are provided for your consideration in Enclosure 2.

1/09.09.08

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M-179

09 09 08 Comment Number 1

More explicit information of the assumptions and the sources of input data for the MACCS code is in the Final PEIS. Information and clarification on cumulative impacts and environmental justice have been added to the PEIS, and the accident analysis has been expanded.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,
WASHINGTON, DC, RICHARD E. SANDERSON
PAGE 2 OF 5

Thank you for the opportunity to comment. If you have any questions, please contact
Susan Offordal at (202) 564-7158.

Sincerely,



Richard E. Sanderson
Director
Office of Federal Activities



Enclosures

M-179

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,
WASHINGTON, DC, RICHARD E. SANDERSON
PAGE 3 OF 5

SUPPORT OF THE EPA DRAFT EIS FOR
DRAFT ENVIRONMENTAL IMPACT STATEMENTS:
OBJECTIONS AND FOLLOW-UP ACTION *

Environmental Impact of the Action

EO--List of Objections

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EO--Environmental Concerns

The EPA review has identified significant environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the proposal. EPA intends to work with the lead agency to reduce these impacts.

EO--Environmental Objections

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantive changes to the proposal. EPA intends to work with the lead agency to reduce these impacts.

EO--Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the EOQ.

Adequacy of the Impact Statement

Category 1--Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. The analysis of impacts is adequate, and the information is sufficient to support the addition of clarifying language or information.

Category 2--Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment. The EPA review has identified areas where additional information is needed. EPA intends to work with the lead agency to obtain the identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3--Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussion should be included in the final EIS. EPA intends to work with the lead agency to obtain the identified additional information, data, analyses, or discussion should be included in the final EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the EOQ.

* from EPA Manual 1600 Policy and Procedures for the Review of Federal Actions Impacting the Environment (January, 1977)

EPA COMMENTS ON THE STORAGE AND DISPOSITION OF WEAPONS-USABLE FISSILE MATERIALS DRAFT PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT 1 Enclosure 2 Radiation: In general, it appears that the conclusion drawn in the programmatic environmental impact statement (PEIS) to the effect that there are no major radiological consequences of any of the alternatives is reasonable. Both the doses modeled and the probability of these doses are small. This conclusion seems particularly warranted in the case of routine operations. In the case of accidents, while the conclusion of little or no risk is still plausible, some questions do arise. The PEIS does not clearly differentiate the safety risks associated with each alternative if an accident were to occur. This is of some note because, as the PEIS notes, accidents are of major concern to the public and the decisionmaker. For example, based upon the information presented it is unclear why a decisionmaker would choose vitrification as a preferred technology since it is more costly, requires an additional processing step, and produces more waste. The increased safety of this alternative, in case of accident, is not transparent in the analysis. We recommend that the final document contain more explicit accident risk information for the alternatives. The accident scenarios assume a worker a kilometer away from the accident site. Is this a reasonable assumption? What is the basis for this? At least in the case of Hanford, the effect of a facility accident on the maximally exposed individual in the general population is a hundredfold less than the worker already a kilometer away. What assumptions produce this result? Again, more discussion of how the MELCOR Accident Consequence Code System (MACCS) model is applied would add to the confidence one has in the results. It is clear that given the small dose the model predicts and the very low assumed probability of the more serious accidents (a severe earthquake has a one-in-ten million chance of occurring) the resulting risk is small and not of concern. The EIS needs to document more fully why these assumptions and others associated with the accident scenario are reasonable, and how these and other inputs are used by the MACCS model. Cumulative Impacts: The handling of the discussion of cumulative effects leaves questions unanswered. For example, in discussing Pantex (Vol II, pg 4-860), which the PEIS notes may have the most severe problems associated with cumulative effects, the number of fatal cancers is not added because the exact locations of facilities has not been determined, and therefore summing may be "conservative". Surely, the initial estimation of effects in each of the various environmental impact statements (EISs) must have assumed some location. If these locations are different from EIS to EIS the risks could be summed. If one or more of the potential functions occupy the same land, the issue might arise as to whether there is sufficient desirable/usable land at the site to accommodate the multiple intended uses, even if the total acreage seems adequate. What is the real saturation point of highly utilized facilities such as Savannah River Site and Pantex? The discussion of cumulative impacts begs the question. Notwithstanding this issue, and given the general claim in the PEIS to be conservative, it would seem that adding radiation risks would be warranted. A further issue is the cumulative effect of several new activities on the accident scenario. Would accidents at one co-located facility result in damage to and exposure		2/09.09.08	3/09.09.08	1/09.09.08 cont.	4/09.09.08	5/09.01.01	6/09.09.08	M-179

09 09 08 Comment Number 2

In the Draft PEIS, there is more detailed information on the health risk assessment for normal operation and anticipated accidents in Section M.5, and a technical report prepared exclusively for this project, *Health Risk Data for Storage and Disposition of Weapons-Usable Fissile Materials PEIS*, November 1996, referenced in the PEIS as HNUS 1996a. The information included in the appendix and technical report includes a brief description of accident scenarios, health risks for involved workers, the MEI, and the potential cancer fatalities for the general population in the region (up to 80 km [50 mi]).

More explicit accident risk information was added to the environmental consequences (Chapter 4), including explanations of the location of the MEI and the relationship (relative distances) to the noninvolved workers.

09 09 08 Comment Number 3

The 1,000-m (3,281-ft) distance of a noninvolved worker from the nearest release point of radioactive material is a representative distance which has been used in calculations at all sites. It provides a reasonable reference distance for calculations at both large and small sites. Estimating exposures from a release point at closer distances may not be very accurate because of building effects on dispersion (that is, wake-stream effects).

Also, more detail on how the MACCS code was applied is added to the Final PEIS, Appendix M, and Environmental Impact Methodology sections of Chapter 4. In addition, a topical report for the accident assessments was prepared and added to the current Health Risk Data topical report.

09 09 08 Comment Number 4

The impacts of these actions have not been summed because the exact locations of the facilities for planned actions may change. In addition, because each of these facilities is sited in a different location, the location of the MEI for each is also different. The MEIs have been selected to maximize the potential dose for a given facility. Since the MEI would have to be resident at more than one location simultaneously in order to receive the maximum dose from each facility, summing the doses would be misleading. The offsite population and total site workforce doses have not been summed because the population distribution and workforce totals as analyzed vary among the actions.

2	Enclosure 2	from other facilities? How does this affect the total risk from a site?	6/09.09.08 cont.
Plutonium Disposition Technology Alternatives (S-13 to S-16 and S-22 to S-36): Although there is a detailed explanation of the environmental impacts for the various technical alternatives for plutonium disposition in the text and in the summary tables, there is no discussion of the level of knowledge and applications experience with fissile materials of the Department of Energy (DOE) or other parties with the various technologies. There is no discussion of the level of uncertainty associated with the proposed alternatives, and what this uncertainty would mean in terms of potential environmental impacts. In summary, it would help the reader to know the feasibility of the technologies (e.g., which technologies are experimental or pilot projects) and the timeframe for development (e.g., short or long-term feasibility). Environmental Justice: Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires special attention to be given to subsistence consumption of fish and wildlife. "Federal agencies, whenever practicable and appropriate, shall work in a coordinated manner to publish guidance reflecting the latest scientific information available concerning methods for evaluating the human health risk associated with the consumption of pollutant-bearing fish and wildlife. Agencies shall consider such guidance in developing their policies and rules." Recent studies show that the Indian people at the Columbia River Basin practiced traditional patterns of life that may have affected their exposure to radioactive releases from Hanford. Traditional activities such as hunting, fishing, food gathering and cultural activities may have affected tribal members' exposure to Hanford's releases. DOE is initiating a study at the Savannah River Site to analyze the types and amounts of Savannah River fish consumed since it recognizes that some people eat fish caught near and downstream from the Savannah River Site and that those fish may be contaminated. Consumption issues are important to address in this PEIS because of their uniqueness in minority and low-income populations and the detrimental range of impacts they may have.			7/01.04.00
8/09.12.06			

M-179

09 01 01	Comment Number 5	Cumulative impacts at each analysis site were revised in the Final PEIS to include the total land area required by the other DOE programs. This land area is compared to total site area.
09 09 08	Comment Number 6	It is DOE's requirement for collocated facilities that the facility design preclude an accident at one facility from damaging another nearby facility on the same site. Such protective designs include physical isolation measures, such as a buffer zone, between the facilities. Using protective measures, the probability of having such accidents severe enough to damage a nearby facility would be extremely small (less than $1.0 \times 10^{-8}/\text{yr}$). Based on the DOE's <i>Recommendations for the Preparation of Environmental Assessments and Environmental Impacts Statements</i> , May 1993, such low probability accidents rarely need to be examined in this PEIS.
01 04 00	Comment Number 7	The PEIS evaluates the environmental impacts of a range of alternatives for materials storage and disposition. A more detailed technical discussion of these alternatives, along with related cost and schedule requirements, was provided in a Technical Summary Report issued by DOE in July 1996. The report provides further details on the feasibility of the technologies and the timeframe for development.
09 12 06	Comment Number 8	The potential environmental impacts of DOE activities on populations engaging in subsistence consumption could vary greatly depending on the precise location of a storage or disposition facility at a particular site, and the technology employed for the treatment or disposal of wastes at such a facility. In a prior NEPA review, incorporated herein by reference, DOE reviewed fish and wildlife consumption at Hanford, INEL, NTS, ORR, and SRS. At these sites, DOE found the potential impacts associated with the consumption of fish and wildlife to be small or to be no different than the potential impacts on the general population (DOE 1995v: 5.20-11). Section 4.5 of the Final PEIS has been modified to include this information.

UNITED STATES HOUSE OF REPRESENTATIVES, FLINT, MI,
CONGRESSMAN DALE E. KILDEE
PAGE 1 OF 1

DALE E. KILDEE
Congress of the United States
House of Representatives
Washington, DC 20515-2209

May 9, 1996

The Honorable Hazel O'Leary
Secretary
U.S. Department of Energy
1000 Independence Avenue, S.W.
Washington, D.C. 20585

Dear Secretary O'Leary:

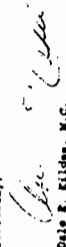
I am writing to you on behalf of the residents who live within the Ninth Congressional District. I am concerned about one of the options presented in the reactor category of disposition alternatives in the Storage and Disposition of Weapons-Usable Fissile Materials Draft Programmatic Environmental Impact Statement (PEIS).

It is my understanding that this statement proposes to store a plutonium-based mixed oxide fuel in the Canadian Deuterium Uranium (CANDU) reactor located on the shore of Lake Huron near Ely, Ontario. According to the report, one of the proposed routes to transport this fuel, from the State of Washington to Ontario, would be through the State of Michigan, and through heavily populated areas in my congressional district.

By using a nationwide route of transporting and storing the plutonium in the CANDU reactor, many people across the nation and in the State of Michigan could be at risk. Transportation of a volatile and high level radioactive creates a significant threat to citizens and should only be considered when absolutely necessary. I urge the Department to examine other access points to Canada that are less densely populated. The many legitimate public health and safety issues raised by this proposal cannot be ignored.

I appreciate your prompt attention to this matter. Please do not hesitate to contact me or Michele Arnold of my staff at (202) 225-3611 if you require additional information. I look forward to hearing from you.

Sincerely,


Dale E. Kildee, M.C.

FORM 10-80 (10-11-95)

M-292

10 00 00 Comment Number 1

Under NEPA, DOE is required to evaluate a range of alternatives for Pu disposition. In that regard, the disposition of Pu in a CANDU reactor is one of nine different disposition alternatives analyzed in the PEIS. Six specific sites and a generic site are evaluated for fabricating MOX fuels for Pu disposition. As a result, the transportation analyses performed in the PEIS consider multiple routes from potential fuel fabrication sites to potential reactor sites. Section G.6 provides a description of the DOE safe secure transport system. The design of the vehicles and the transportation operation procedures are classified; the selection of the routes and coordination with State and local governments are contained within these procedures. However, there has never been a failure of this system to provide safe secure transportation during more than 20 years in operation.

For emergency response circumstances, all shipments will be coordinated with appropriate State and local officials. If requested, DOE will assist appropriate officials with response plans, and, if necessary, with resources in accordance with guidelines established in DOE Order 5530.3. DOE has developed a Radiological Assistance Program, also outlined in DOE Order 5530.3, to provide assistance in all types of radiological accidents. Regional Radiological Assistance Program plans include coverage of the States and provide for maintaining and executing emergency response plans.

1/10.00.00

DAVID E. BONIOR
10TH DISTRICT, MICHIGAN

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

With respect to the Storage and Disposition of Weapons-Usable
Fissile Materials Draft Programmatic Environmental Impact Statement, I
would like to submit the following comments.

These specifically relate to the Canadian Deuterium Uranium
Reactor Alternative under consideration by DOE. Selection of this
alternative would raise the possibility that radioactive materials would be
transported across the Blue Water Bridge that links Port Huron, Michigan
and Sarnia, Ontario. I must strongly object to the prospective use of this
route, which would involve crossing a body of water that connects the
Upper and Lower Great Lakes System over a busy bridge with a high
volume of traffic. In my opinion, this route would expose not only a
densely populated area to an unwarranted risk, but the largest combined
source of fresh water in the world to an ecological disaster of unknown and
possibly unimaginable proportions.

I would appreciate it if my comments could be entered into the
official record of these proceedings.

Sincerely,

David E. Bonior
Member of Congress

1/10.00.00

10 00 00 Comment Number 1

Under NEPA, DOE is required to evaluate a range of alternatives for Pu
disposition. In that regard, the disposition of Pu in CANDU reactors is one of
nine different Disposition Alternatives analyzed in the PEIS. Six specific sites
and a generic site are evaluated for fabricating MOX fuels for Pu disposition.
As a result, the transportation analyses performed in the PEIS consider
multiple routes from potential MOX fuel fabrication sites to potential reactor
sites. Although the Port Huron/Sarnia border crossing is mentioned in the
PEIS as a convenient point for the CANDU fuel shipments to pass from the
United States to Canada, our analysis also reflects other possible routes.

The Draft PEIS did not identify a Preferred Alternative for Pu disposition. A
Preferred Alternative is identified in the Final PEIS and a disposition decision
is expected to be made by the end of the year. The decision will take into
account environment, safety (including transportation), and health factors as
well as technical, cost, schedule, and nonproliferation considerations. After
the ROD (which will include technology approaches) is expected to be
reached in late 1996, follow-up analyses, negotiations, and specific
agreements over several years will be required before implementation.

UNITED STATES HOUSE OF REPRESENTATIVES, AMARILLO, TX,
CONGRESSMAN WILLIAM THORNBERRY
PAGE 1 OF 5

Thank you for allowing me the opportunity to make a few remarks.

Many of the others who will testify
will discuss the outstanding record of the Pantex plant,
the unparalleled level of community support which the plant enjoys,
and the willingness to consider other missions
as we sort out the nuclear weapons complex after the Cold War.

I'm going to focus on some broader questions
which certainly affect Pantex
but also the larger security needs of the country.

I do so not because I disagree with the other points
or because I don't think they are important.

Pantex's record, its people, its community support,
and its openness to other possibilities are its key strengths
and no one else can match them.

But during my tenure in Congress, *or a number of the last few years*
I have attempted to make a serious study *of the nuclear weapons program*
of our nuclear weapons complex.

in part because I represent one of its crown jewels
and in part because I believe
that a modern, effective nuclear capability
is absolutely necessary to our national security.

I won't say that I have learned all I can or intend to,
and I won't represent to you that I know all the answers
during this time of change and turmoil.

But I am confident that I know enough to raise some serious questions
that relate to the subject today and to our children's security.

TX-040

UNITED STATES HOUSE OF REPRESENTATIVES, AMARILLO, TX,
CONGRESSMAN WILLIAM THORNBERRY
PAGE 2 OF 5

This is, of course, a time of great change brought about by the end of the Cold War, by the fact that the DOE was not as careful in the past as it should have been, and by this administration's decision to stop all nuclear testing.

Stockpile Stewardship and Stockpile Management

In my view, stockpile stewardship and stockpile management are important for the nation regardless of whether we conduct nuclear tests or not.

We should use a number of methods to make as sure as we can that our nuclear weapons are safe and reliable.

In doing so, we are making a serious mistake if we neglect to factor in the importance of highly skilled workers at production plants.

I tend to agree with those who argue that we need smart people in labs and maybe even that we need smart people at two labs to compete against one another.

But every bit as much as we need smart people in labs, we need experienced, knowledgeable people in production plants who know how to take a design or a procedure and produce a product that meets the requirements safely and efficiently time after time so that we have weapons that are safe and reliable on which we can stake our children's freedom.

That's what people at plants like Pantex do.

TX-040

UNITED STATES HOUSE OF REPRESENTATIVES, AMARILLO, TX,
CONGRESSMAN WILLIAM THORNBERRY
PAGE 3 OF 5

It's like if you're building a house,
you need architects to draw up the blueprints and to consult with,
but there is absolutely no substitute
for skilled carpenters, and plumbers and painters
who know how to get the work done,
who know what problems there may be
in translating the blueprints and procedures into precise components;
and who have a proven track record
of having done it --- time after time.

I am afraid that an undercurrent in DOE today,
that sometimes even rises to the surface,
is a lack of appreciation
for the importance of those workers on the assembly line
at Pantex and elsewhere.

If we lose them, we are a weaker nation
and no number of PhD's at the labs
will replace what we've lost.

I find it incredible that DOE would ask more and more
of at least one of our production plants
and yet allocate less money for it to fulfill its mission.

If we can't keep the trained, experienced personnel at Pantex,
the country won't reach its goals for Stockpile Stewardship and Mgmt
We will begin to lose confidence in our nuclear deterrent,
and we will have been penny wise and pound foolish.

I am also concerned
that we are just focusing on dragging out the life
of current weapons
without taking positive steps

TX-040

UNITED STATES HOUSE OF REPRESENTATIVES, AMARILLO, TX,
CONGRESSMAN WILLIAM THORNBERRY
PAGE 4 OF 5

toward replacing our existing weapons
which will all too soon be at the end of their intended design life.

A real question is whether we will be able to build nuclear weapons again
and how.

There are many improvements which could be made now,
others which we will want to make in the near future,
and all the while we have to be prepared

to deal with changes in Russia, China and elsewhere.
I'm not sure we're ready.

High Explosives

Let me address the one issue in the PEIS
for which no preferred alternative was included,
that is high explosives.

When you compare apples to apples,
no one seriously disputes
that the most cost effective option
is retaining the existing mission at Pantex.

The sole justification to moving high explosives
to Los Alamos and Livermore
is that we need to keep knowledge and competence
of high explosives in the Labs.

OK - but we need to keep it at the production level too.

You can do all the research you want
and have all the knowledge you can handle,
but if you can't reliably and safely translate that knowledge
into real production,
you have nothing.

TX-040

UNITED STATES HOUSE OF REPRESENTATIVES, AMARILLO, TX,
CONGRESSMAN WILLIAM THORNBERRY
PAGE 5 OF 5

There is no reason in the world
that the Labs can't continue to send people to Pantex as needed
for the manufacture of high explosives,
but to remove high explosives
completely out of the production complex
would be a big mistake.

Disposition -

The issue of what we're going to do
with the excess plutonium and uranium is of key concern here.

As you know, we've got several thousand pits stored here
with more being added every day.

I am disappointed that the PEIS gives so little guidance
on what's to be done.

We need to get on with making these key decisions.

Two weeks ago at Los Alamos,
I was able to see firsthand some of the work involved in the Arics project.

We have some very promising technologies,

but the country needs leadership.
and our area needs confidence that DOE knows what it is doing
and is doing the right thing.

As long as I am in the Congress,

I will be involved in making these decisions

and I will do everything I can

to see that our area is protected,

to see that our nation is secure,

and to see that our children have the opportunity to live in freedom.

1/08.03.00

TX-040

08 03 00 Comment Number 1

The PEIS is an analysis of the environmental impacts that could occur if DOE implemented a Proposed Action, in this case, storage and disposition of weapons-usable fissile materials. The PEIS is used by the decisionmakers along with other information to make the best possible decision on which of the alternatives, if any, should be taken to accomplish the Government's goals and needs.

UNITED STATES SENATE, STATE OF TEXAS,
SENATORS PHIL GRAMM AND KAY BAILEY HUTCHISON
PAGE 1 OF 2

Pat. O'Leary
Texas

United States Senate
WASHINGTON, D.C. 20510-4302

May 5, 1996

The Honorable Hazel O'Leary
Secretary
U.S. Department of Energy
Forrestal Building
1000 Independence Avenue, S.W.
Washington, DC 20585

Dear Secretary O'Leary:

Thank you for the opportunity to comment on the U.S. Department of Energy's (DOE) Programmatic Environmental Impact Statements (PEISs) on Stockpile Stewardship and Management (SSM) and Storage and Disposition (S&D) of Weapons-Usable Fissile Materials. Please also consider this our comment on the Pantex Site-Wide Environmental Impact Statement, since most of the issues addressed in these documents are identical.

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 any expansion at Pantex be implemented in a way that 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 and future activities at Pantex, including expansion.

We are pleased that DOE selected Pantex as the preferred alternative for assembly/disassembly, thereby abandoning earlier plans to transfer those functions to the Nevada Test Site (NTS). However, by failing to recognize Pantex as the preferred candidate site for new and/or consolidated stockpile management facilities, the DOE overlooked the best site for maintaining the integrity of the U.S. nuclear stockpile and attaining maximum efficiencies and cost savings.

Pantex is perhaps the most cost-effective alternative for any new construction of SSM facilities. First, labor costs, utility rates, and water and land availability at Pantex, as well as public support, are more amenable than those at any other Complex site. It is appropriate to consider Pantex as an alternative site for all future defense-related facilities to complement activities at the national labs (such as the planned Alamos Facility and plutonium pit fabrication site at Los Alamos National Laboratory [LANL]). DOE makes no mention of a strategic plutonium reserve that we believe is important to our future national security needs, even though the PEIS mentions that strategic storage should be co-located with disassembly. We believe Pantex should be the preferred site for such a mission in coordination with its management functions. The location of additional defense-related activities at Pantex would ensure that core technical capabilities are preserved at a location that can secure them at the most efficient cost to the American people. In its deliberations, DOE should insist that budgetary comparisons between Pantex and other sites are accurate, and include capital, transportation, training, remediation, and other costs.

1/09.00.04

M-236

09 00 04 Comment Number 1

Potential environmental consequences of each Pantex alternative were analyzed in the PEIS. Results of these environmental analyses will be given full weight, along with other factors such as cost, technical risk, schedule, and national security requirements, in the process of selecting the storage strategy and site and disposition strategy and technology for the Fissile Materials Disposition Program. Pantex will continue to operate in compliance with all Federal, State, and local requirements.

UNITED STATES SENATE, STATE OF TEXAS,
SENATORS PHIL GRAMM AND KAY BAILEY HUTCHISON
PAGE 2 OF 2

Consistent with the strengths identified above for increased stewardship and management duties, the high explosives (HE) functions should also remain at Pantex. Because the production assembly/disassembly functions remain at Pantex, the HE fabrication duties should be present at the corresponding site. After all, the SSM draft admits that Pantex must retain HE capabilities to process the inventories already on site from dismantling. Therefore, the least expensive alternative is to maintain HE functions at Pantex. We adamantly disagree with the statement in the PEIS that there are no advantages to siting high explosives at Pantex rather than the national labs. The capitol outlay alone necessary for transfer is cost prohibitive. In addition, should future need arise for new weapons production, it will be critical to have the HE facilities at the weapons production/assembly site.

As the sole DOE-authorized facility for assembly and disassembly of nuclear weapons, Pantex has historically handled these functions in a safe and efficient manner for more than 40 years. One of the challenges faced after dismantling a significant portion of the nuclear stockpile is the processing or disposal of the materials that remain. In meeting this challenge, Pantex could continue to store plutonium which is already at the site and upgrade facilities for any and all storage options being considered by DOE with minimal cost and difficulty. Pantex currently safehouses more than 8,000 surplus pits, and plans are being made to ship additional pits from Rocky Flats to Pantex. It makes little sense to re-create storage facilities at another site and then unnecessarily transport large amounts of plutonium across the country from Pantex.

We also believe Pantex should be designated the preferred site for any disposition options and related functions. It makes budgetary and policy sense to site disposition where storage already exists. Furthermore, it makes no sense from any perspective, budget or otherwise, to site strategic storage at one site and surplus at another. Pantex should be selected for both storage functions. Pantex has the necessary safety, security, and surveillance capabilities to accommodate an expanded role with minimal costs and it is the production site closest to Los Alamos, the planned pit fabrication site.

Based upon these reasons, we respectfully urge DOE to designate Pantex as the preferred alternative site for all existing and new stockpile management and stewardship functions as well as consolidation of all plutonium storage and disposition and any related functions. Thank you again for the opportunity to comment on these documents.

Yours respectfully,


PHIL GRAMM
United States Senator


KAY BAILEY HUTCHISON
United States Senator

2/08.03.01

08.03.01

Comment Number 2

The Department of Energy acknowledges the commentors' support of Pantex. Decisions related to future missions at Pantex will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

M-236

UNIVERSITY OF TEXAS, AUSTIN, TX,
THOMAS C. GUSTAVSON
PAGE 1 OF 4



BUREAU OF ECONOMIC GEOLOGY
THE UNIVERSITY OF TEXAS AT AUSTIN
University Station, Box X • Austin, Texas 78713-8024 • (512) 471-1554 or 471-3721 • FAX 471-0140
10100 Burnet Road, Bldg. 130 • Austin, Texas 78758-4497

April 26, 1996

U.S. Department of Energy
Office of Fissile Materials
P.O. Box 23786
Washington, DC 20028

Dear Sir or Madam:

The following are review comments on the "Storage and Disposition of Weapons-Usable Fissile Materials Draft Programmatic Environmental Impact Statement" from staff at the Bureau of Economic Geology of The University of Texas at Austin.

General Comment:

Sections 3.5.4. and 3.5.5., which describe water resources and geology and soils, do not provide adequate information for the reader to determine if environmental impacts could result from proposed alternative actions at Pantex.

1/09.00.04

Specific Comments:

Page S46, para. 3. Potential impacts of the long-term storage alternative at Pantex depend greatly on waste disposal practices in addition to the natural characteristics of the site. Although the Ogallala is a valuable and critically important ground-water resource, the presence of the resource does not necessarily make it vulnerable to impacts of waste storage. Detailed studies by the Bureau of Economic Geology and other entities have shown that recharge to the perched and Ogallala aquifers is focused through playas or artificially ponded areas such as ditches and that recharge in upland or interplaya areas is negligible. Recharge occurs where surface water accumulates and develops sufficient hydraulic head over sufficient time to drive waters below the zone of evapotranspiration. Recharge of water or contaminants may also occur beneath manmade excavations such as ditches and landfill sites where runoff can accumulate (these are roughly analogous to playas) or as the result of leaking underground storage tanks. Appropriate engineering practices to prevent releases from storage silos and placement of storage facilities in upland (interplaya) areas at the Pantex Plant should limit the potential for adverse impacts to water resources at Pantex. As long as no wastes are introduced into the playas, buried on site, or placed in an area where water can flow through the wastes or pond in contact with the wastes, contaminants should not be transported into the subsurface and the Ogallala should not be impacted by Pantex activities. Proper engineering and adequate monitoring and maintenance would, however, minimize impacts of long-term storage on the Ogallala at the Pantex Plant.

2/09.04.04

09 00 04 Comment Number 1

The information provided in the PEIS provides the decisionmaker with adequate information to select a site-specific, long-term storage alternative. This is particularly true considering the programmatic nature of this document and the fact that neither of these resources is considered to be a key discriminator in the long-term storage decision.

09 04 04 Comment Number 2

Current and future operations at Pantex are not expected to affect the water quality of the Ogallala Aquifer. However, since this aquifer is being depleted (that is, the current withdrawal is exceeding the current recharge), Pantex operations contribute to the depletion of the Ogallala Aquifer and are analyzed in the PEIS.

F-026

UNIVERSITY OF TEXAS, AUSTIN, TX,
THOMAS C. GUSTAVSON
PAGE 2 OF 4

U.S. Department of Energy
Office of Fissile Materials
May 3, 1996
Page 2

Figures 3.5.4-1 and 3.5.4-2. Playas are incorrectly labeled as dry lakes on these maps. Playas should be described as ephemeral lakes, as they are in Figure 3.5.1-1. Most playas, including playas 2, 3, 4, 5, and Pantex Lake, hold water for 1 to 3 months per year. Playa 1 holds water throughout the year because it receives discharge from the Pantex waste water treatment plant.	3/09.04.04
Figures 3.5.4-1 and 3.5.4-2. These maps indicate that the southern boundary of the Pantex site includes the right-of-way for both U.S. Highway 60 and the Burlington Northern and Santa Fe Railroad. Compare with Figure 3.5.1-1 where the southern boundary is shown correctly.	4/09.04.04
Page 3-164, para. 2. Data from seismic surveys and playa basin cores acquired by the Bureau of Economic Geology suggest that playas 3 and 5 and Pantex lake are surface expressions of local subsidence related to dissolution of underlying Permian salt beds.	5/09.05.04
P. 3-164, para. 1. All playas shown in figures 3.5.1-1, 3.5.4-1, and 3.5.4-2 except playa 3 are approximately 900 to 1000 m in diameter.	6/09.05.04
P. 3-164, para. 2. The lithology of the Ogallala Formation is not described. The description should include a brief discussion of the complex heterogeneity of the Ogallala because the variation in sediment types controls ground water flow in the formation. The significance of the fine-grained zone as well as gravels in buried channels beneath the plant should be explained.	7/09.05.04
P. 3-164, para. 2 or 3. No attempt is made to describe the role of salt dissolution and subsidence in the formation of playa basins. High sulfate loads in streams draining the region indicate that these processes are active regionally. No mention is made of the potential effects, if any, of dissolution-induced subsidence at the plant.	5/09.05.04 cont.
P. 3-164, para. 5. No attempt is made to point out that Randall clay soils are Vertisols and that deep desiccation cracks and root tubules, which are potential pathways for recharge, are characteristic of these soils. Furthermore, these soils have a udic moisture regime, which means that water moves down through the soil at some time in most years. That is, recharge occurs through even these clay soils.	8/09.05.04
Page 4-187, para. 1. It is stated that the TNRCC projects that there will be adequate water until the year 2040. In fact this projection is probably from a Texas Water Development Board report from the early or mid-1980's.	9/09.04.04
Page 4-187, para. 3. It is stated that "No additional impacts to groundwater quality are anticipated because there are no direct discharges to groundwater". This seems at least a little misleading in two areas. First, exactly how does one define direct discharge? The contaminants east of Zone 12 south document a fairly direct pathway for recharge water from the surface to the aquifer. Second, the current plans for treating contaminated water at the plant rely on the reinjection	10/09.04.04

F-026

09 04 04 Comment Number 3

Figures 3.5.4-1 and 3.5.4-2 were corrected in the Final PEIS show playas as ephemeral lakes.

09 04 04 Comment Number 4

Figures 3.5.4-1 and 3.5.4-2 were corrected in the Final PEIS.

09 05 04 Comment Number 5

Considerable attention has been given to the possible origin of playas. Gustavson et. al. summarized playa development as follows: "These landforms are the result of a series of intermittently active processes, including wind, fluvial erosion and lacustrine deposition, pedogenesis, dissolution of soil carbonate, salt dissolution and subsidence, and animal activities, that collectively produced the typically shallow and roughly circular playa basins on the High Plains. We infer that playa basins are stable landforms that, once initiated, remain as part of the landscape." Recent work in Pain 1994 using shallow seismic data has determined that the structure beneath the playas at Pantex shows displacement of Ogallala strata attributed to dissolution of underlying salt beds.

Salt dissolution is a process that has resulted in major post-Permian structures. In Carson County, a large depression is filled with sediment of the Ogallala Formation. Presence of the Ogallala deposits in the depression indicates that the basin existed prior to Ogallala time and that the local dissolution was underway prior to or during the deposition of the Ogallala Formation.

The following text has been added to Section 3.5.5 of the Final PEIS: "Recent work using shallow seismic data has determined that the structure beneath the playas on Pantex and adjacent areas shows displacement of Ogallala strata. This displacement is attributed to the dissolution of underlying salt beds." With this addition, the discussion of salt dissolution in the PEIS is considered adequate considering the programmatic nature of this document and the fact that this resource is not considered to be a key discriminator in the long-term storage decision.

U.S. Department of Energy
Office of Fossil Materials
May 3, 1996
Page 3

of treated water into the aquifer. This injection would also qualify as direct discharge to the aquifer.

Page 4-194, para. 1. Data from seismic surveys and plays basin cores acquired by the Bureau of Economic Geology suggest that plays 3 and 5 and Pantex lake are surface expressions of local subsidence related to dissolution of underlying Permian salt beds. Estimated average subsidence rates are low (about 0.01 mm/yr), but vertical movement may be episodic.

Page 4-859. The amount of ground-water decline that will result from projected production rates is given as 1.5 in/yr. What is the source of this number? The writer also fails to mention that this incremental increase will be in addition to the drawdowns resulting from the Amarillo well field. Current rates of decline in the area of the Pantex well field are approximately 2 ft/yr. It would seem appropriate in a discussion of ground-water resources to include the impact of the Amarillo well field on the ground-water resources at the Pantex Plant.

If you have any questions concerning these comments please call me at (512) 471-0232.

Sincerely yours,


Thomas C. Gustavson
Senior Research Scientist

TGG:dc

cc: R. Mulder, Governor's Office
T. Grimshaw, BEG
J. Roney, BEG
D. Radcliff, BEG

The potential effects, if any, of dissolution-induced subsidence at Pantex is addressed in Section 4.2.4.5 of the Final PEIS. The potential impacts due to subsidence (resulting in sinkholes and/or surface rupture) at Pantex are considered negligible since salt dissolution is a slow process relative to human activities and most active salt dissolution in the region is concentrated near the Eastern Caprock and at the Canadian River Escarpments.

09 05 04 Comment Number 6

The Department of Energy concurs with the commentor. As a result, the text in Section 3.5.5 of the PEIS has been modified as follows: "The plays are about 500 to 1,000 m (1,640 to 3,280 ft) across with clay bottoms and depths to 9 m (30 ft)."

09 05 04 Comment Number 7

The following text has been added to Section 3.5.5 of the Final PEIS to provide a very general description of the Ogallala Formation lithology: "consists of interbedded sands, silts, clays, and gravels." A more detailed discussion of the lithology of the Ogallala Formation is more information than necessary to evaluate impacts for a programmatic review. The geology and soils section (Section 4.5) and the groundwater section (Section 4.6) of the Draft Pantex EIS (DOE/EIS-0225 D, March 1996) has a more detailed discussion of the lithology and groundwater flow characteristics of the Ogallala Formation.

09 05 04 Comment Number 8

The Randall clay soils are generally found in the bottom of the plays. The plays are a significant part of the surface and subsurface hydrologic system at Pantex. The fact that Randall clay soils at Pantex contain potential pathways for groundwater recharge is considered in the estimates of annual recharge rates to the Ogallala Aquifer. Discussion of aquifer recharge is contained in Section 3.5.4 of the PEIS.

F-026

09 04 04 Comment Number 9

The projection is from a 1993 draft of the document entitled *High Plains Aquifer System of Texas - 1980 - 1990 Overview and Projections*. The authors are Ashworth and Peckham of the Texas Water Development Board, which has since been renamed the TNRCC. In the context used in the Draft PEIS, it is appropriate to refer to the current name of the organization.

09 04 04 Comment Number 10

For the purposes of this PEIS, a direct discharge to groundwater would be injection of water to the aquifer via a well; recharge pathways are not considered to be direct discharges. The plans to re-inject treated groundwater to the perched aquifer would qualify as a direct discharge to groundwater. The text in the No Action Alternative section (Section 4.2.4.4) has been modified to reflect this planned activity.

09 04 04 Comment Number 11

As discussed in Chapter 4 of the PEIS, the groundwater decline estimates were based on a previous study of the Amarillo well field which documented a 1.8-m/yr decline when withdrawals averaged 18.5 billion liters (l)/yr. Assuming a linear relationship (which is valid to obtain estimates for use at the programmatic level), a 0.0001-m/yr decline could be expected for each million liters withdrawn.

The PEIS analyzes the impacts from the Proposed Actions at Pantex and not those from other local uses. Pantex operations contributing to the depletion of the Ogallala Aquifer are analyzed in the PEIS.

WAKELY, LILA, LAVA HOT SPRINGS, ID
PAGE 1 OF 1

Comment ID: P0010
Date Received: April 18, 1996
Name: Lila Wakely
Address: Lava Hot Springs

Transcription:

I do not want more waste stored in Idaho. No more. We've got too much. | 1/08.03.01

08 03 01

Comment Number 1

The Department of Energy acknowledges the commentor's opposition to new missions at INEL. Decisions on the storage and disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

P-010

WALLIS, WALTER, PALO ALTO, CA
PAGE 1 OF 1

Comment Number 1

01 04 00

Comment noted.

To: disposal fissile materials, department of energy/From: Walter Wallis, P.E. 415 321-4746 3/6/96 8:45:44 Page 1 of 1

Walter E. [Gene] Wallis
2844 WAYERLEY STREET, PALO ALTO, CA 94306-2442
(415) 321-GRIT (4748) FAX & VOICE
E-MAIL - UNCLEGENE@MSN.COM

Department of Energy
Fissile Material Disposal
March 8, 1996

Gentlefolk:

If an asteroid is detected in a collision course with the Earth, it is almost certain that any plan to divert will require forces in the nuclear range, and that there will be very little time to assemble the material required.

I suggest that consideration be given to establishing, under multinational monitoring, a repository of bomb-grade material determined to be sufficient both for the propulsion and for the demolition or diversion of an asteroid. If we need it and yet we have already made it unavailable as some plans now suggest, we will kick ourselves until the day we die, especially if that death could have been avoided.

Walter E. Wallis

1/01.04.00

F-001

WALTER, CARL E., PLEASANTON, CA
PAGE 1 OF 6

627 Rowell Lane
Pleasanton, CA 94566
May 2, 1996

J. David Nulton
Director, NEPA Compliance and Outreach
Department of Energy
Office of Fissile Materials Disposition
P. O. Box 23786
Washington, DC 20026-3786

Dear Mr. Nulton: Dave

Thank you for the opportunity to comment on your 15-cm-thick(!) PEIS compendium on the various ways that you have considered for storing, dispositioning, or doing nothing about various kinds of DOE-owned fissile materials. I will restrict my response to only a few salient comments with respect to excess weapon plutonium disposition in the hope that they are sufficiently concise that you read them, and more hopefully, that you consider them positively and take the appropriate action.

- The most serious flaw in the PEIS is the almost absolute disconnection from the real issue, the "clear and present danger" represented by abundant excess weapon plutonium in Russia. [See last sentence, p. S-1]. This is a fatal flaw. As I pointed out in my comments (October 1994, copy attached) to the DOE Notice of Intent to engage in this PEIS, it is not consistent to consider excess weapon plutonium to be a "clear and present danger" and at the same time engage in the bureaucratic morass of a formal PEIS exercise. PEIS efforts were not expended for the Persian Gulf War, The Haiti Occupation, the Somalia intervention, the on-going Bosnia Peacekeeping, etc. None of these major Federal actions has constituted a "clear and present danger" to the national security of our country. Disposition of excess weapon plutonium in Russia, on the other hand, is a serious national security issue for Americans. We have already allowed valuable time to slip away. We must begin bilateral efforts at once (certainly not unilateral efforts as indicated in the PEIS, p. S-1), even if it means spending U. S. money in Russia to accomplish this international plutonium disposition mission.

- The complete absence of quantitative schedule considerations (except for a 50-year temporary storage criterion) does not provide a basis for either distinguishing between alternatives or assessing the endurance of the "clear and present danger" represented by excess weapon plutonium.

- The National Academy of Sciences has suggested that the cost of disposition of excess weapon plutonium should be considered in the context of our national security budget. However, the PEIS does not provide comparative costs of the alternatives. In fact, screening criteria are only listed for long-term storage! With no cost data to evaluate, how is the public (or DOE) to assess the viability of the various alternatives? On the other hand, the fast reactor alternative (see below) was summarily ruled out in the PEIS because it would be more costly.

13 00 00 Comment Number 1

The Department of Energy has an ongoing effort to assist the Russians in dealing with the "clear and present danger," including a joint study to assess Pu disposition technologies, and plans for joint demonstrations of some of these technologies to remove the uncertainties of their viability. At the same time, DOE also has the responsibility to comply with NEPA and prepare environmental analyses of the various reasonable alternatives for public review and comment. Analyses on the cost, schedule, technical, and Nonproliferation Policy impacts are presented in separate documents. Taken together, these analyses will support DOE's ROD on the path forward for implementation of the President's Nonproliferation Policy.

07 00 00 Comment Number 2

Schedule data, along with technical and cost data, were provided in Technical Summary Reports of both storage and disposition beginning in late July 1996. The cost data provided in these reports included estimated transportation costs.

07 02 00 Comment Number 3

Cost data, along with technical and schedule data, were provided in Technical Summary Reports of both storage and disposition beginning in late July 1996.

1/13.00.00

2/07.00.00

3/07.02.00

M-136

WALTER, CARL E., PLEASANTON, CA
PAGE 2 OF 6

- A considerable amount of effort was expended by DOE (over thirty million dollars) in the 1992-95 time period to assess the capability of reactor alternatives for disposition of excess weapon plutonium. Work was performed by the major reactor designers under contract to DOE. This work was subsequently evaluated by DOE in the Plutonium Disposition Study. A report on Phase 1 of the Study was published in July 1993, and the report on Phase 2 was to have been published in October 1994. The PEIS includes a 58-page listing of references, however neither of the DOE Study evaluations (in which I participated) are included. I understand that the Phase 2 Study evaluation exists as a draft report, but has been held back to insure its political correctness. Another good reference is the summary prepared by Ron Ormberg and myself in February 1993 of the work performed by the DOE Plutonium Disposition Task Force. In the spirit of DOE "openness", the availability of this information should be made known to the public.

- Despite the absence of quantitative schedule considerations, the fast reactor (among others) was discounted as a comparative alternative for disposition, on the basis that it would be more time-consuming. The PEIS does not reference any of several published papers by MINATOM and other Russian officials that state that a fast reactor is Russia's only acceptable alternative for disposition of their excess weapon plutonium while producing valuable power. Russia has made it very clear that is the approach they will take. Why then would disposition of U. S. plutonium in a fast reactor not be a timely approach?

It is apparent that my comments on the NOI had no implicit or explicit effect on the PEIS process. Is there a record of the official action taken with respect to my NOI comments? May I expect to hear from you, or otherwise receive a reply to this present letter? Again, thanks for the opportunity to comment. I believe that Americans would be forever thankful that excess weapon plutonium were dispositioned in Russia during the next ten years. This could be, if in fact we consider their inventory to be a clear and present danger and a threat to our national security. Otherwise, our debtor government should stop borrowing additional money to waste on more studies and the execution of bureaucratic procedures.

Sincerely,


Carl E. Walter

08 00 00 Comment Number 4

All of the source documents used in preparing the PEIS are available to the public in DOE Public Reading Rooms or upon request to DOE. DOE has used open, publicly available information to the maximum extent possible. No commercial organization's proprietary information was used in preparing the PEIS.

01 03 00 Comment Number 5

The Integral Fast Reactor concept uses a reactor fuel cycle design still under development; however, the development program was recently terminated by the Administration and Congressional action. Since Pu disposition can be accomplished using existing technologies, there is no justification for developing this advanced technology.

08 02 00 Comment Number 6

The comment on the NOI was reviewed as part of the scoping process on this PEIS. The acceptance of the comment is noted in DOE's *Scoping Meeting Comment Summary Report* (DOE/MD-001) and the resolution of that comment is reported in the *PEIS Implementation Plan* (DOE/EIS-0229-IP).

4/08.00.00

5/01.03.00

6/08.02.00

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WALTER, CARL E., PLEASANTON, CA
PAGE 3 OF 6

627 Rowell Lane
Pleasanton, CA
94566

October 12, 1994

U.S. Department of Energy
c/o Oak Ridge Institute for Science and Education
P. O. Box 117
Oak Ridge, TN 37831-0117

Attention: Robert Menard, EESD

Dear Mr. Menard:

Following are my comments on "The Notice of Intent (NOI) to prepare a Programmatic Environmental Impact Statement (PEIS) titled 'Storage and Disposition of Weapons-Usable Fissile Materials'. These comments were solicited concurrently with publication of the NOI in the Federal Register, v. 59, n. 118, p. 31985, June 21, 1994.

I offer these comments as an informed private citizen and a registered nuclear engineer in the State of California. I have over 38 years of engineering experience dealing with nuclear materials and systems. For the past three years I have participated in various studies concerning disposition of excess weapon plutonium. I have four concerns with respect to the approach to disposition of excess weapon plutonium that is outlined in this NOI.

1. PEIS: An Unnecessary Delay

At the highest level of my concerns is the considered necessity by DOE to invoke the NOI/PEIS/ROD procedure in the matter of disposition of excess weapon plutonium. DOE cites the recent NAS study on management and disposition of excess plutonium as the basis for the action they propose. Yet the NAS admonition of a "clear and present danger" posed by excess weapon plutonium, while explicitly cited, is implicitly ignored by DOE. The danger to the U.S., of course, is the presence of plutonium in Russia. If in fact there is a "clear and present danger", then a major Federal action such as disposition of plutonium in the U.S. (and more importantly to instill in Russia a sense of urgency) should be exempt from the time-consuming NOI/PEIS/ROD process. A responsible government cannot on the one hand proclaim danger, and on the other hand proceed with "business as usual". It is important to begin at once to prudently dispose of our excess plutonium so that we may, through negotiation and treaty, exact similar actions in Russia at once, while a presumably receptive Russian government is in place. There is no mention in the NOI about how disposition of U.S. excess weapon plutonium would be tied to actions taken by Russia with their excess weapon plutonium. Time is of the essence to get agreement with Russia and commence disposition there as well as in the U.S. I note that, while the recent Persian Gulf War would appear to have been a major

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WALTER, CARL E., PLEASANTON, CA
PAGE 4 OF 6

Federal action, NOUPEIS/ROD procedures were circumvented even in the absence of a clear and present danger to the U.S. but with an assured negative impact on the human environment. If Russia also adopts a "business as usual" attitude about disposition, should this be a worry to the U.S.? I think so.

2. Storage: Distraction from Disposition

But if no urgency is perceived (i.e. there is no clear and present danger), and the DOE is not deterred from proceeding with the NOUPEIS/ROD process, I am concerned that the PEIS includes in its title "Storage". In the text, storage generally is long-term storage (duration undefined) unless it is interim storage, which is defined to apply in the "near-term" (duration also undefined). DOE's expressed interest in storage of all kinds associated with disposition is in direct conflict with the policy promulgated in the Presidential Decision Directive (PDD-13) of last September that states: "...eliminate where possible the accumulation of stockpiles of...plutonium..." even though this policy is explicitly referenced in the NOI. This storage issue forms the next level of my concerns. It is abundantly clear that "interim storage" and "long-term storage" are included in the "no-action" alternative that would normally be addressed in a PEIS relating to the Defense Program and does not need to appear in the title of a PEIS relative to a Disposition Program. Certainly, storage is not a new requirement for the Defense Program. Storage is an existing Defense Program responsibility, that was incurred some fifty years ago when we started making weapon plutonium and continued to aggregate until we stopped making it recently. Excess weapon plutonium is a new topic.

What is new, is disposing of the U.S. weapon plutonium that is now considered excess in concert with similar action by Russia. Clinging the issue of "disposition" by including "storage" in the title of the NOI (as a matter of fact in the lead position in the title) stimulates the perception that storage is the more important topic and disposition may not ever occur. (For example, consider the perception of a local news reporter to the advertisement for the local public workshop - article attached). My concern is that actual disposition of weapon plutonium will be delayed indefinitely, or at best tens of years, in the U.S. and in Russia as a result of DOE's fixation on long-term storage as a viable solution, or at least a necessary intermediate step to disposition. The NOI statement "Because disposition options will take decades to carry out..." implies that the duration of the disposition process is not a subject for negotiation or determination - that it is not a variable that can be adjusted. But this is false. With appropriate negotiations between U.S. and Russia, disposition could begin now, and be completed within ten years. The "will take decades" attitude toward disposition will become a self-fulfilling prophecy. Following our lead, disposition in Russia might also take the form of long-term storage. In view of the conditions in Russia, this is not a desirable outcome. So if the NOUPEIS/ROD process continues, at least the emphasis of the process should be only on disposition and not also on long-term storage. With regard to disposition, there should be a strong tie to a negotiated similar program in Russia. The NOI does not address how this will be accomplished.

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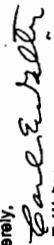
WALTER, CARL E., PLEASANTON, CA
PAGE 5 OF 6

3. Action: Not Convolved Management and Study, Study....
I believe that the excess weapon plutonium disposition program is being poorly managed by DOE. This was a major concern of the Office of Technology Assessment (OTA) in their September 1993 report "Dismantling the Bomb and Managing the Nuclear Materials". OTA concluded that ultimate disposition of excess plutonium from dismantled warheads is essentially a civilian mission and that "...the DOE organization that has been carrying out the weapon production mission (Defense Program) is not well suited to take on the new material disposition mission". Disposition of excess weapon plutonium should be tied to the Defense Program of DOE only at an interface that makes the excess material available to the Disposition Program. OTA suggested that a new organization outside of DOE manage excess materials or that a new organization within DOE be established. DOE quickly did the latter (but staffed the new organization with a number of Defense Program personnel and assigned to it responsibility for storage of all weapon-usable fissile material, not just excess material), and started the third study on disposition in as many years. DOE must take action, not engage in yet another study.

4. Best Disposition Method: Obviously Fission
The best method for plutonium disposition is already clear to those who have considered the issues. Only the fission process can be used to practically irreversibly alter the isotopic composition of weapon plutonium. Only in this way is the risk of diversion of this material reduced to that already present in commercial spent fuel. Also, plutonium contains a large amount of energy, which only a deflected or misinformed DOE would not utilize. One cannot throw away energy on the one hand and on the other hand claim to nurture a philosophy of conservation of energy. One cannot on the one hand bury electricity and champion the environment, and on the other hand bury plutonium. Certainly, Russia will not bury their weapon plutonium, but will eventually burn it in nuclear reactors. We should help as we can to insure that this "happens sooner rather than later", to borrow a term from the NAS study. It is also abundantly clear from recent presentations by various knowledgeable speakers from France, England, and Japan that they will use their plutonium beneficially. We should recover plutonium from the excess weapon plutonium inventory for feed material for reactor fuel as soon as possible. We should initiate fabrication and testing of MOX fuel elements in existing reactors as soon as possible. We should already have started these actions two years ago. No wonder OTA lacks confidence in DOE!

Thank you for the opportunity to comment. I look forward to your response.

Sincerely,


Carl E. Walter

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WALTER, CARL E., PLEASANTON, CA
PAGE 6 OF 6

THE VALLEY

Feds to address storage

By Paul Elias
Staff Writer

LIVERMORE — Federal officials touring the country in search of a final resting place for most of the nation's nuclear bomb-making material will hold a public meeting here Wednesday.

The Lawrence Livermore National Laboratory has 880 pounds of plutonium and 400 pounds of highly enriched uranium. President Clinton has declared surplus nuclear weapons material, but the federal government is preparing an environmental im-

material at the lab to burying it. Eight nuclear testing sites have also been identified as potential storage sites for the nuclear bomb material, including the Nevada Test Site. No disposal sites have been identified in California.

Other options include diluting the highly enriched uranium with lower grade material and burying it in a reactor or using it as nuclear fuel as well as also options being considered.

"This is why the public is involved," U.S. Department of Energy spokesman John Belluardo said. The federal government is preparing an environmental im-



UPD

Ox Valley Herald

Page A-9
Tuesday
September 27, 1994

of lab nuclear material

part report designed to weigh the pros and cons of the storage options. Belluardo said. By law, public testimony must be considered before the report is prepared. The public workshop will be held at the Lawrence Livermore National Laboratory, 720 Los Flores Road, from 1 to 8 p.m. It is divided into two sessions with a two-hour break starting at 4:30 p.m.

"There are more than 40 people signed up to speak," Schweigler said.

Wednesday's meeting is designed more as a workshop than a formal public hearing. Belluardo said. Environmental officials will give a presentation followed by a question-and-answer session. Each session then will be

divided into two small group discussions, one dealing with storage the other with disposition.

Written comments will also be accepted and weighed equally to public testimony. Belluardo said. Written comments should be mailed to the U.S. Department of Energy, c/o Oak Ridge Institute for Science and Education, P.O. Box 117, Oak Ridge, Tenn. 37831-0117; attention Robert Menard E2550. Written comments have to be postmarked by Oct. 17 to be considered.

Belluardo said the environmental report process is expected to take more than a year to complete. Once a report is prepared and approved, the disposal will take up to 50 years to complete.

M-136

85 Claymore Lane
Oak Ridge, TN 37830
June 3, 1996

To: DOE-Office of Fissile Materials Disposition
From: Barbara A. Walton
Subject: Draft Programmatic Environmental Impact Statement (PEIS), Storage and Disposition of Weapons-Usable Fissile Materials

General Comments:

1. The release of this Draft PEIS at the same time as the Stockpile Stewardship and Management Draft PEIS is unfortunate. Holding concurrent public hearings is unacceptable.
2. Fig. S-15, on page S-37, is missing the Electrometallurgical Treatment Alternative.
3. The locations chosen for ORR on pages 2-38 and 2-81 are extremely bad. I hope the other potential sites have not been similarly treated

Preferred Alternatives:

1. I was encouraged by the lack of preferred alternatives in this draft PEIS; this encourages public input and indicates an open mind on the part of DOE.
2. I support the Upgrade at Multiple Sites Alternative for Long-Term Storage. I do, however, have a reservation about the potential environmental impact, at Pantex, on the Ogallala aquifer and would be supportive of some consolidation at NTS using the P-Tunnel. This may also enable inclusion of the RFETS material.
3. I am unequivocally opposed to the collocation of Pu and HEU.
4. A preferred alternative for disposition is much more problematic; it may be desirable to separate it from the process, as was done with the Disposition of HEU, in order to reach a timely decision on the Long-Term Storage.

Discussion of Disposition Alternatives:

1. No Action would, in effect, make long-term storage indefinite, difficult and costly. This is not acceptable.
2. The Deep Borehole needs more study on geological consequences. Immobilized Disposition may be a viable alternative, but not by the DOE's scheduled ROD for this PEIS of late 1996.
3. Immobilization, especially Electrometallurgical Treatment, appears promising, BUT MERELY CREATES HIGH-LEVEL WASTE, which has not yet been addressed (it was outside the scope of the Draft Waste Management PEIS). Therefore, I consider this option not viable at this time.
4. Reactor options in the US are not politically acceptable at this time. I believe this may change in the long run, as global impacts of fossil fuel usage become better understood by the US public. It is also not economically viable; the blending of HEU will provide domestic reactors with ample fuel in the near term. I suggest quietly pursuing the CANDU Reactor option for political viability.

Barbara A. Walton

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08 02 00 Comment Number 1

The Department of Energy acknowledges the commentator's concern about the integration of public meetings on draft EISs. The joint meetings on the Storage and Disposition PEIS, the Stockpile Stewardship and Management PEIS, and the Pantex EIS were held using an integrated format at the request of several organizations and citizen advisory boards. They stated that such meetings "would be more convenient and provide a less confusing format for public participants. It would avoid duplication, permit a much more efficient use of the public's time and allow a more informed decision about the issues."

16 00 00 Comment Number 2

Based on comments received, the Summary of the Draft PEIS was revised. All revisions made are included in the Summary of the Final PEIS.

01 00 00 Comment Number 3

Comment noted.

08 02 00 Comment Number 4

Comment noted.

08 03 01 Comment Number 5

The Department of Energy acknowledges the commentator's support for the Upgrade Storage Alternative. Decisions on storage of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

08 03 01 Comment Number 6

The Department of Energy acknowledges the commentator's support for new missions at the NTS. Decisions on storage and disposition of weapons-usable fissile materials will be based on environmental analyses, technical and economic studies, national policy considerations, and public input.

08 03 01 Comment Number 7

The Department of Energy acknowledges the commentor's opposition to the Collocation Alternative. Decisions on storage of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

01 00 00 Comment Number 8

Separating storage from disposition would not effectively meet the purpose of and need for the Proposed Action. Planning for storage of the surplus Pu pending disposition is closely related to that for the disposition activities and would be affected by the technology(ies) selected to implement the Proposed Action. DOE is confident that a decision can be made on disposition technologies at this time, and is continuing to expand a range of small scale tests and demonstrations of some Pu disposition technologies to remove uncertainties in viability.

08 03 01 Comment Number 9

The Department of Energy acknowledges the commentor's opposition to continuing or long-term storage. Decisions on storage of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

09 05 08 Comment Number 10

The deep borehole complex is not defined for a specific or representative site. Therefore, a limited assessment of the environmental impacts was done for the geological and other resources. Should either of the Deep Borehole Alternatives be selected, a siting study would be conducted in coordination with a site-specific discussion of environmental (including geological) conditions and impacts. The identification and acceptance of a site location would require extensive site characterization to ensure that the primary objective of the deep borehole complex, hydrologic isolation from the biosphere, would be met.

08 03 01 Comment Number 11

The Department of Energy acknowledges the commentor's opposition to the Immobilization Alternatives. Decisions on disposition alternatives will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

08 03 01 Comment Number 12

The Department of Energy acknowledges the commentor's opposition to the Electrometallurgical Treatment Alternative. Decisions on disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

08 03 01 Comment Number 13

The Department of Energy acknowledges the commentor's support for the CANDU Reactor Alternative. Decisions on the disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

WASHINGTON PUBLIC POWER SUPPLY SYSTEM, RICHLAND, WA,
J. V. PARRISH
PAGE 1 OF 6



WASHINGTON PUBLIC POWER SUPPLY SYSTEM

P.O. Box 3968 • 10001 George Washington Hwy. • Richland, Washington 99212-0968 • (509) 372-5000

May 7, 1996

Gregory P. Rudy, Acting Director
Office of Fissile Materials Disposition
Department of Energy
P.O. Box 23786
Washington, D.C. 20026-3786

Re: Comments on Draft PEIS on Storage and
Disposition of Weapons Usable Fissile Materials

Dear Mr. Rudy:

On March 8, 1996, the Department of Energy ("Department" or "DOE") published in the Federal Register a notice of availability of a draft Programmatic Environmental Impact Statement ("draft PEIS") on the potential environmental impacts of various alternatives for the storage and disposition of surplus weapons-usable fissile materials. 61 Fed. Reg. 9443 (March 8, 1996). The notice also announced a series of public meetings to discuss and receive comments on the draft PEIS and an opportunity for written public comment on the draft PEIS.

The Washington Public Power Supply System ("Supply System") is interested in this matter as it relates to the use of existing commercial light water reactors for the disposition of surplus weapons plutonium. The Supply System has submitted responses to the Department's request for expressions of interest in plutonium disposition (40 Fed. Reg. 64,104 (Dec. 13, 1995)) and an unsolicited proposal to use the Supply System's operating WNP-2 reactor to conduct a lead use assembly MOX fuel program, and has had numerous other interactions with the Department in furtherance of the Supply System's willingness to assist the Department with its plutonium disposition mission. Most recently, the Supply System participated in the public meetings on the draft PEIS which were held in Richland, Washington; Las Vegas, Nevada; Amarillo, Texas; and Washington, D.C.. In addition to comments made by Supply System representatives at these several public meetings, the Supply System offers the following written comments on the draft PEIS.

See Letter to Mr. Howard Canter from Mr. William G. Council dated August 25, 1995, with enclosure.

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM, RICHLAND, WA,
J. V. PARRISH
PAGE 2 OF 6

08 03 01	Comment Number 1	
	Comment noted.	
08 03 01	Comment Number 2	
	The Department of Energy acknowledges the commentor's support for the Existing LWR Alternative. Decisions on disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.	
01 04 00	Comment Number 3	
	Comment noted. The decision will be based not only on environmental analyses, but also on analyses of technical, cost, schedule, and policy aspects of the reasonable alternatives as reflected in the Technical Summary Report issued by DOE beginning in late July 1996 and the Nonproliferation Report in the fall of 1996. Should the Existing LWR Alternative be selected, DOE would issue a public notice to solicit proposals for implementing this alternative. The information the commentor describes would be very useful should this alternative be selected.	
1/08.03.01		
2/08.03.01		
3/01.04.00		

Comments on the Draft PEIS

The Supply System commands the Department on the thorough and detailed consideration of potential environmental impacts of various plutonium disposition options in the draft PEIS. We believe that the draft PEIS generally gives appropriate treatment to the environmental impacts of the several technologies being seriously considered by the Department for plutonium disposition, and that the draft PEIS clearly demonstrates that the option of using existing commercial light water reactors poses the least incremental environmental impacts of any of the options considered. To further increase the usefulness of the PEIS in support of the expeditious implementation of a plutonium disposition program, the Supply System offers the following specific comments:

- The Supply System urges the Department to finalize the PEIS promptly and to move to a Record of Decision and Request for Proposals in an expeditious manner.

As the draft PEIS recognizes, a plutonium disposition program is necessary to implement the President's Nonproliferation and Export Control Policy in a safe, reliable, cost-effective, technically feasible, and timely manner. Draft PEIS at 1-5, Prompt action is necessary to demonstrate the United States' commitment to these objectives which will, as the draft PEIS notes, "set[] a model for proliferation resistance" and "enable the United States to... negotiate reciprocal actions with other States for the disposition of surplus weapons-usable Pu." Draft PEIS at 1-5, Indefinite storage of this material, or pursuit of options which cannot be implemented for many years, will not satisfy these objectives. The option of using existing commercial light water reactors, on the other hand, is safe, reliable, and cost-effective, is the only technically proven disposition option, and can be implemented in the most timely manner.

- The Supply System encourages the Department to go beyond "technology selection" and to include (or reference), to the extent possible, readily available environmental data and analyses associated with project-specific options.

To some extent, the Department has already addressed this issue, by including "representative" site-specific data on siting and operating characteristics of existing reactors (derived from actual plant data, including WWP-2 information (Draft PEIS at 3-345)) and similar data for at least one partially completed reactor. The Department makes it clear that these sites are being considered "for analysis only" and

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM, RICHLAND, WA,
J. V. PARRISH
PAGE 3 OF 6

Comment Number 4

01 02 00

Comment noted.

3/01.04.00
cont.

that their consideration does not represent a DOE proposal or preference. Draft PEIS at 3-17. The Supply System encourages the Department to include any additional environmental data which would support subsequent consideration of a site-specific or project-specific option, such as, for example, references to existing NEPA analyses for operating nuclear reactors, especially for reactors whose licensees have expressed interest to DOE in participating in the plutonium disposition mission. While we recognize that the Department does not intend to select a specific project or site in the PEIS, such project-specific or site-specific information could conceivably be sufficient to support such a decision in the future, without the need for another (e.g., "tiered") EIS, or to narrow the scope (and hence speed the completion) of any such EIS.

In a similar vein, the PEIS should expressly recognize that for certain site-specific or project-specific options, such as use of the WNP-2 reactor, many of the project-specific environmental impacts are already considered in the draft PEIS.

With respect to WNP-2, the draft PEIS already analyzes the environmental impacts of a pit disassembly/conversion facility and a fuel fabrication facility at the Hanford site (where WNP-2 is located). In addition, the draft PEIS considers cumulative environmental impacts of such a program at Hanford (and finds Hanford second only to the Nevada Test Site in terms of desirability on this point). The draft PEIS also incorporates data on the environmental setting at WNP-2. Draft PEIS at 3-345. The PEIS should recognize that these elements, when combined and added to the existing EIS for WNP-2 operation, constitute an essentially complete consideration of the environmental impacts of a WNP-2 MOX fuel use program.

The PEIS should also recognize that WNP-2 is the only operating commercial reactor located at one of the representative sites for which environmental impacts of a MOX fuel cycle have already been analyzed in the draft PEIS. Recognition of this fact in the PEIS need not be viewed as a DOE expression of preference but merely "for analysis only," in the same manner that the draft PEIS treats data on the partially completed Bellefonte plant. As discussed above, however, the analysis could conceivably be used at some later date to support, or simplify environmental analysis of, a site-specific or project-specific decision.

4/01.02.00

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• The Department's choice of a technology or technologies for plutonium disposition, which is to be made in the final PEIS, should be informed by consideration of the practical availability of, and the sufficiency of existing environmental analyses of, site-specific or project-specific options. In drawing on environmental information and analyses for existing reactors such as WWP-2, the Department need not express a preference in the PEIS but rather could simply acknowledge the existence of environmental analyses for certain site-specific options in order to reach a more fully informed decision on the most desirable plutonium disposition technology or technologies. The fact that the analyses in the draft PEIS and other NEPA documents already address virtually all environmental impacts of a particular technology at the site-specific or project-specific level (as it does for use of MOX fuel at WWP-2) should enhance the desirability of the reactor-use technology in general. A choice of technology should be based not only on comparison of representative generic environmental impacts, but rather should also involve consideration of the practical issue of whether and when a particular technology can be implemented. For the reactor-use option, unlike the other technologies being considered, the site-specific environmental impacts have been largely evaluated (since they are not expected to differ significantly from the environmental impacts of current operations), and the technology has been proven and is available for implementation as soon as the supporting facilities are completed. In its analysis of the reactor-use option in the final PEIS, the Department should utilize the most current available data on the throughput capability of boiling water reactors. Current data show greater throughput capability than is assumed in the draft PEIS, and hence would support either a more expedited plutonium disposition schedule or a program requiring less reactor capacity. • The draft PEIS should include environmental data on the Fuels and Material Examination Facility ("FMEF") which is located on the Hanford Reservation and should seriously consider use of the FMEF as a MOX fuel fabrication facility in support of the reactor-use option. The FMEF presents several key advantages over construction of new MOX fuel fabrication capability: it is essentially complete and would require relatively little capital investment to provide near-term MOX fuel fabrication capability; it is located on the Hanford Reservation, which	3/01.04.00 cont.	06 02 09 Comment Number 5 The throughput capabilities reflected in the PEIS for both PWRs and BWRs are conservative MOX core designs. More advanced core designs exist that can accommodate higher throughputs. The PEIS fuel cycles are idealized designs which bound environmental impacts.
5/06.02.09	01 02 00 Comment Number 6 The FMEF is considered for use as a long-term storage facility for Pu and the impacts are included in Section 4.2.1 of the PEIS. For the production of MOX fuel, a generic facility was considered for all six DOE sites. At Hanford this MOX fuel fabrication facility would be located in the 200-Area adjacent to 200 East. The utilization of the FMEF would be a variant for MOX fuel fabrication at Hanford, which is bound by the environmental analysis for the MOX fuel fabrication facility located in the 200-Area. Table 2.4-1 of the PEIS provides a brief description for variants which includes "Modification/completion of existing facilities for MOX fabrication." Utilization of FMEF for the Upgrade Alternative would not preclude its use to also support Pu disposition activities, for either Reactor or Immobilization Alternatives.	6/01.02.00

6/01.02.00 cont.	would minimize transportation, handling, and security costs if other disposition facilities were co-located at Hanford; and, perhaps most importantly, the FMEP could be utilized as a "glove box" facility, which could be used to fabricate MOX fuel from the output of the MOX disassembly/conversion facility, but, unlike a typical "canyon"-type MOX fuel fabrication facility, would not be capable of reprocessing spent MOX fuel. Therefore, the facility could support a MOX fuel plutonium disposition program without being able to be characterized as a vehicle for domestic reprocessing.	08 03 01	Comment Number 7	The Department of Energy acknowledges the commentor's support for new missions at Hanford. Decisions on storage and disposition of weapon-usable fissile materials will be based on environmental analyses, technical and economic studies, national policy considerations, and public input.
7/08.03.01	The Department's preliminary observations regarding the possible need to utilize both the reactor-use and vitrification options support a decision to centralize the plutonium disposition program on the Hanford Reservation. The Supply System agrees with the statement in the draft PEIS that some forms of plutonium may not be suitable for MOX fuel use, such that the disposition program may best be accomplished using a combination of the reactor-use and vitrification alternatives (Draft PEIS 3-7). In view of this conclusion, the Department should recognize the efficiencies of co-locating the two technologies near the source of much of the in-process plutonium (i.e., at Hanford) where the two disposition processes (with one using the WNP-2 reactor for MOX fuel consumption) and their waste streams could be treated in an integrated fashion.	01 02 00	Comment Number 8	The design of facilities for the selected Pu disposition alternatives will include consideration of waste minimization and treatment of the associated waste streams.
8/01.02.00	The Supply System encourages the Department to establish, at the outset, a detailed program for treatment of all waste streams associated with the plutonium disposition program. The Department should anticipate and fully address cleanup and waste disposal issues associated with the plutonium disposition program. The waste streams for plutonium conversion and fuel fabrication and/or vitrification facilities should be fully characterized and specified, and a facility for treatment of those waste streams should be included in the program. The Supply System envisions a waste treatment facility which is co-located with the disassembly/conversion, conversion, and fuel fabrication facilities on the Hanford reservation. The facility could be constructed at the outset of the disposition program. The facility could then be used in part to process existing Department wastes unless and until its full capacity was needed to process disposition wastes, and then again once the disposition mission was completed. In this way, the plutonium disposition program would be fully integrated into the	8/01.02.00		

WASHINGTON PUBLIC POWER SUPPLY SYSTEM, RICHLAND, WA,
J. V. PARRISH
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08 03 00 Comment Number 9

The Department of Energy is, or will soon start, conducting a series of technical demonstrations on certain aspects of some alternatives for the purpose of verifying technical parameters and information. This information will be used in the decisionmaking process and implementation of an alternative if it is selected.

8/01.02.00
cont.

Department's defense cleanup program in a timely and cost-effective manner.

- To support the process of selecting a disposition technology or technologies, the Department should proceed with activities which would further confirm the relative desirability and near-term availability of the reactor-use option, including (1) implementation of a mixed oxide ("MOX") fuel lead use assembly program in a commercial reactor and (2) use of a commercial reactor as the lead plant to commence the MRC licensing process for use of MOX fuel in a commercial reactor.

9/08.03.00

These actions would provide additional information on the time required for implementation of a MOX fuel use program and would identify any unanticipated technical or licensing issues, which would further inform a decision on the relative desirability of the reactor-use option, without prejudicing the technology selection decision or overcommitting to the reactor-use option prior to the time of technology selection. The information gained through these actions would also support prompt implementation of the reactor-use option, if ultimately selected.

We appreciate the opportunity to comment on these matters of extreme importance to global nuclear non-proliferation. We look forward to the issuance of the final PEIS and to further opportunities to assist the Department in prompt implementation of a plutonium disposition program.

Respectfully yours,

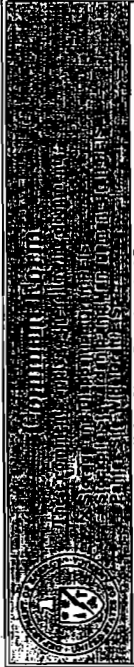

J.V. Parrish

Chief Executive Officer

WASHINGTON PUBLIC
POWER SUPPLY SYSTEM

F-035

WERTH, KENNETH F., ARVADA, CO
PAGE 1 OF 3

	NAME: (Optional) <u>Kenneth F. Werth</u> ADDRESS: <u>6895 Florence St. Arvada Co. 80004</u> TELEPHONE: <u>(303) 424-0280</u> <u>I Kenneth F. Werth attended the public meeting on the afternoon of March 26, 1985 in Arvada, Co. on the Draft PEIS for the Storage and Disposition of Weapons-Usable Materials. I find two of the three Alternatives, Deep Borehole and Plutonium, unacceptable in the Storage and Disposition of Plutonium and SNM Metals and Oxides Materials. (1) Comment = Deep Borehole. It was never going to solve this nuclear waste problem. This government of the United States should solve its long term waste problem on an ever available geological burial, and then to move forward to a secure Storage and Disposition, that allows waste continuous monitoring by a Spent Fuel Satellite, and be retrieved if it has to be. Deep geological burial, burial, does not "neutralize" waste management problem for our children, grandchildren, and future generations. But honestly that statement, I do precisely, the reverse.</u> <u>(2) Reactors = The conclusion by Plutonium and Highly Enriched Uranium as Reactor fuel used as a United States option, would be a serious hindrance to achieving an international effort to reprocessing into non-proliferation grade. Long-term, prompt, and high technical uncertainty, the United States has already given up civil use of plutonium for non-proliferation as well as for economic reasons. If we are ever going to transmute our position to a global plutonium role, over Russia and China on this crucial issue, it would be wise</u>
14 00 00	Comment Number 1
While there may be certain advantages to surface storage, geologic disposal of HLW is the focus of Federal waste management programs both here (the NWPAs as amended) and abroad (Collective Opinions in 1985, 1991, and 1995 by the Radioactive Waste Management Committee of the Nuclear Energy Agency [in cooperation with the IAEA]). Since most of the Plutonium disposition alternatives result in a material form destined to be transported to a domestic NWPAs-HLW repository (exceptions include the CANDU Reactor and Borehole Alternatives), DOE included comparability analyses in Appendix H of the PEIS to illustrate that these alternatives have the potential to be accepted at such a repository. Any alternatives which were determined to significantly exceed (or fall short of) the Spent Fuel Standard were eliminated during the screening process which produced the PEIS reasonable alternatives.	
01 06 00	Comment Number 2
Comment noted.	
1/14.00.00	
2/01.06.00	
F-003	

April 1, 1996

for the United States To Look At Security Concerns.
That leaves us currently feasible solutions, to rid
these materials for good, that present no other
of potentially increasing proliferation threats.
Creating new environmental problems, and/or
aggravating old ones, at huge costs, in the
kiln of Hell. I would then suggest that the
United States should formally declare excess plutonium
a security, economic, and environmental liability,
and for that it is a use in weapons.
(3) I would support two concepts that I have proposed
one is in the building of a Flatop Pyramide type facility
"above ground" that would incorporate all of the Plu-
onium and Highly Enriched Uranium Materials, by a
vitification process in glass, or Ceramic Immobilized
that would be fused in the 6 to 8 hollowed out Crabs
of the 40 ton blocks of (Granite) that then would be
placed in the center of the Flatop Pyramide type
facility. I would seal Nuclear Waste, that is very
side in the United States has millions of cubic yards
of that will have to be fed into, if we are going
to solve this Nuclear Waste problem, that has plagued
our nation for the last 50 years.

Second = Criteria a concept for the complete Storage
Disposition, Containment, and Transportation of
Plutonium and Highly Enriched Uranium, Vitrified
in borosilicate glass, or Ceramic immobilized in 6 to
8 hollowed out Crabs of 40 ton blocks of (Granite).
This concept would solve all of the Storage
Disposition and Containment problems, and then
be transported by rail or truck, to remote areas
of the Southwestern desert region, or the

2/01.06.00
cont.

1/14.00.00
cont.

F-003

WERTH, KENNETH F., ARVADA, CO
PAGE 3 OF 3

April 1, 1996

SALT flats of Utah, stacked 5 or 6 high, would
provide a low cost, low maintenance, and
long-term storage, disposition, and containment
method for all nuclear waste, including spent
nuclear fuel rods; it would then be extracted
by a stationary dry cask. To, that would
be placed in orbit 22,000 miles above the earth.

This nuclear waste, could be monitored by
one centralized station that would be controlled
by the United States government; this concept
would also be a solid barrier against theft
and terrorism.

This proposal for these two concepts, has taken
a lot of thought from me, one person in trying
to solve this nuclear waste problem that has
plagued the United States, and the rest of the
world for the last 50 years.

"Please Respond"

Sincerely
Kenneth F. Werth

P.S. You have already taken my concept
for the Flatop Pyramid type facility

1/14,00,00
cont.

F-003

WERTH, KENNETH F., ARVADA, CO
PAGE 1 OF 6

March 25, 1996

Kenneth F. Werth
(303) 424-0790

A State-of-the-Art alternative for Long-Term Storage and Disposition of Fissile Materials and Low Level Nuclear Waste, in a six year staged Construction Sequence.

My concept is in the building of a flat top pyramid type facility, that could be utilized at a number of sites across our nation, in the storage and disposition of all low level, low level mixed, rubble, and encapsulated Plutonium and SNM Metal and Oxide Materials.

The construction, on 18 acres, of a 920X868 cubic foot above ground flat top pyramid type facility, would incorporate, (35,884) 40 Ton blocks of (Granite) cut 10 feet in length, 7 feet in width, and 6 feet in height, that would hold all of the Nuclear Waste (1968-237) cubic yards, on each site, as a monitored and retrievable, interim storage facility, or for long-term, if no other sites are found.

All of the Plutonium and SNM metals and oxide materials, would be vitrified in glass, or be ceramic immobilized and encapsulated in 40 Ton blocks of (Granite), and placed in the center of all the low level Nuclear Waste, surrounded by a large number of solid 40 Ton blocks of (Granite).

1. My conceptual vision is in a statement about the Treatment, Disposal, and Storage of Nuclear Waste that has been a problem that has not been properly handled since the inception of the Nuclear age, one should not be left as a legacy for our children, and grandchildren, or future generations.

1/14.00.00

CO-001

14 00 00 Comment Number 1

The Department of Energy applied a screening process along with public input to identify a range of reasonable alternatives for analysis in the PEIS, and utilized technical reports and analyses from national laboratories and industry to develop a final list of alternatives. Details were published in a separate report, *Summary Report of the Screening Process to Determine Reasonable Alternatives for Long-Term Storage and Disposition of Weapons-Usable Fissile Materials* (DOE, March 1995).

WERTH, KENNETH F., ARVADA, CO
PAGE 2 OF 6

March 25, 1996

(3) Unmonitored and retrievable disposal of Nuclear Waste plays on the "out of sight, out of mind" theme and is neither morally nor technically acceptable, leaving citizens to believe that the site has been cleaned up of all Nuclear Waste.

(3) All Low Level, Plutonium and SNM Metals and Oxide Materials will be stored in a manner that allows for continuous monitoring and retrieval. (4) An above ground Flatop Pyramid type facility will provide Storage and Disposition of all Low Level, Plutonium and SNM Metals and Oxide Materials, and will be seen as the first "State-of-the-Art" on-site Storage and Disposition facility in the world.

(5) (Granite) is readily available nation wide, and its use will save billions of dollars, without diverting construction materials, such as concrete from traditional uses, in continuing development on our infrastructure. Work could begin almost immediately in one of more locations, and be completed in a shorter period of time than with conventional methods and materials.

(6) OpSITE above ground Flatop Pyramid Type Facilities for Storage and Disposition of Nuclear Waste, could easily be monitored by a spy satellite placed in a stationary orbit 22,000 miles above the earth.

(7) Interstate Transportation of Nuclear Waste will be eliminated across other states borders.

(8) The 900 x 868' cubic foot above ground Flatop Pyramid type facility, on 18 acres of land

1/14.00.00
cont.

CO-001

08 03 01 Comment Number 2

The Department of Energy recognizes the commentor's concern with the Borehole Alternatives. Decisions on the disposition alternatives will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

March 25, 1996

versus the more than 170 acres, estimated to be needed for an underground waste dump. If estimates of waste quantity are not accurate, at each site, the Flatop Pyramid type facility, can be built on less land use, and capped at a lower level, or additional levels can be added. Flatop Pyramids can be sized for each site based on the estimated quantities of waste to be stored.

(9) The WIPP site in New Mexico will be stalled for years of public outcry, litigation concerning over border transportation, limited storage space, and other issues will doom this project, if it hasn't done so already.

(10) If we are ever going to solve this Nuclear Waste Problem, the government of the United States should relay its singular focus on irreversible geological burial and turn to some form of secure storage and containment, that allows both continuous monitoring by a spy satellite, and be retrieved if it had to be. Deep geological

burial does not resolve waste management problems for our children, grandchildren, and future generations, but ironically that environment does precisely the reverse.

My proposal, for this concept is the Questionnaire regarding Criteria for screening Storage and Disposition Alternatives.

"Please Respond"

Sincerely
Kenneth F. Werth
6895 Flower St
Arvada Co 80004

1/14.00.00
cont.

2/08.03.01

CO-001

WERTH, KENNETH F., ARVADA, CO
PAGE 4 OF 6

DESIGNED BY
Kenneth F. Werth
(303)324-0790

L.W.H.
900'x800' Pyramid constructed of 10x7'x6" blocks of GRANITE

Level X	Block No.	Block Total	CY Enclosed	Total CY	Elm	Comments
1	90	10980	0	0	0	Solid Blocks
2	90	10980	0	0	0	Solid Blocks
3	88	10980	180	180	180	Solid Blocks
4	88	10980	180	360	360	Solid Blocks
5	88	10980	180	540	540	Solid Blocks
6	88	10980	180	720	720	Solid Blocks
7	88	10980	180	900	900	Solid Blocks
8	88	10980	180	1080	1080	Solid Blocks
9	88	10980	180	1260	1260	Solid Blocks
10	88	10980	180	1440	1440	Solid Blocks
11	88	10980	180	1620	1620	Solid Blocks
12	88	10980	180	1800	1800	Solid Blocks
13	88	10980	180	1980	1980	Solid Blocks
14	88	10980	180	2160	2160	Solid Blocks
15	88	10980	180	2340	2340	Solid Blocks
16	88	10980	180	2520	2520	Solid Blocks
17	88	10980	180	2700	2700	Solid Blocks
18	88	10980	180	2880	2880	Solid Blocks
19	88	10980	180	3060	3060	Solid Blocks
20	88	10980	180	3240	3240	Solid Blocks
21	88	10980	180	3420	3420	Solid Blocks
22	88	10980	180	3600	3600	Solid Blocks
23	88	10980	180	3780	3780	Solid Blocks
24	88	10980	180	3960	3960	Solid Blocks
25	88	10980	180	4140	4140	Solid Blocks
26	88	10980	180	4320	4320	Solid Blocks
27	88	10980	180	4500	4500	Solid Blocks
28	88	10980	180	4680	4680	Solid Blocks
29	88	10980	180	4860	4860	Solid Blocks
30	88	10980	180	5040	5040	Solid Blocks
31	88	10980	180	5220	5220	Solid Blocks
32	88	10980	180	5400	5400	Solid Blocks
33	88	10980	180	5580	5580	Solid Blocks
34	88	10980	180	5760	5760	Solid Blocks
35	88	10980	180	5940	5940	Solid Blocks
36	88	10980	180	6120	6120	Solid Blocks
37	88	10980	180	6300	6300	Solid Blocks
38	88	10980	180	6480	6480	Solid Blocks
39	88	10980	180	6660	6660	Solid Blocks
40	88	10980	180	6840	6840	Solid Blocks
41	88	10980	180	7020	7020	Solid Blocks
42	88	10980	180	7200	7200	Solid Blocks
43	88	10980	180	7380	7380	Solid Blocks
44	88	10980	180	7560	7560	Solid Blocks
45	88	10980	180	7740	7740	Solid Blocks
46	88	10980	180	7920	7920	Solid Blocks
47	88	10980	180	8100	8100	Solid Blocks
48	88	10980	180	8280	8280	Solid Blocks
49	88	10980	180	8460	8460	Solid Blocks
50	88	10980	180	8640	8640	Solid Blocks
51	88	10980	180	8820	8820	Solid Blocks
52	88	10980	180	9000	9000	Solid Blocks
53	88	10980	180	9180	9180	Solid Blocks
54	88	10980	180	9360	9360	Solid Blocks
55	88	10980	180	9540	9540	Solid Blocks
56	88	10980	180	9720	9720	Solid Blocks
57	88	10980	180	9900	9900	Solid Blocks
58	88	10980	180	10080	10080	Solid Blocks
59	88	10980	180	10260	10260	Solid Blocks
60	88	10980	180	10440	10440	Solid Blocks
61	88	10980	180	10620	10620	Solid Blocks
62	88	10980	180	10800	10800	Solid Blocks
63	88	10980	180	10980	10980	Solid Blocks
64	88	10980	180	11160	11160	Solid Blocks
65	88	10980	180	11340	11340	Solid Blocks
66	88	10980	180	11520	11520	Solid Blocks
67	88	10980	180	11700	11700	Solid Blocks
68	88	10980	180	11880	11880	Solid Blocks
69	88	10980	180	12060	12060	Solid Blocks
70	88	10980	180	12240	12240	Solid Blocks
71	88	10980	180	12420	12420	Solid Blocks
72	88	10980	180	12600	12600	Solid Blocks
73	88	10980	180	12780	12780	Solid Blocks
74	88	10980	180	12960	12960	Solid Blocks
75	88	10980	180	13140	13140	Solid Blocks
76	88	10980	180	13320	13320	Solid Blocks
77	88	10980	180	13500	13500	Solid Blocks
78	88	10980	180	13680	13680	Solid Blocks
79	88	10980	180	13860	13860	Solid Blocks
80	88	10980	180	14040	14040	Solid Blocks
81	88	10980	180	14220	14220	Solid Blocks
82	88	10980	180	14400	14400	Solid Blocks
83	88	10980	180	14580	14580	Solid Blocks
84	88	10980	180	14760	14760	Solid Blocks
85	88	10980	180	14940	14940	Solid Blocks
86	88	10980	180	15120	15120	Solid Blocks
87	88	10980	180	15300	15300	Solid Blocks
88	88	10980	180	15480	15480	Solid Blocks
89	88	10980	180	15660	15660	Solid Blocks
90	88	10980	180	15840	15840	Solid Blocks
91	88	10980	180	16020	16020	Solid Blocks
92	88	10980	180	16200	16200	Solid Blocks
93	88	10980	180	16380	16380	Solid Blocks
94	88	10980	180	16560	16560	Solid Blocks
95	88	10980	180	16740	16740	Solid Blocks
96	88	10980	180	16920	16920	Solid Blocks
97	88	10980	180	17100	17100	Solid Blocks
98	88	10980	180	17280	17280	Solid Blocks
99	88	10980	180	17460	17460	Solid Blocks
100	88	10980	180	17640	17640	Solid Blocks
101	88	10980	180	17820	17820	Solid Blocks
102	88	10980	180	18000	18000	Solid Blocks
103	88	10980	180	18180	18180	Solid Blocks
104	88	10980	180	18360	18360	Solid Blocks
105	88	10980	180	18540	18540	Solid Blocks
106	88	10980	180	18720	18720	Solid Blocks
107	88	10980	180	18900	18900	Solid Blocks
108	88	10980	180	19080	19080	Solid Blocks
109	88	10980	180	19260	19260	Solid Blocks
110	88	10980	180	19440	19440	Solid Blocks
111	88	10980	180	19620	19620	Solid Blocks
112	88	10980	180	19800	19800	Solid Blocks
113	88	10980	180	19980	19980	Solid Blocks
114	88	10980	180	20160	20160	Solid Blocks
115	88	10980	180	20340	20340	Solid Blocks
116	88	10980	180	20520	20520	Solid Blocks
117	88	10980	180	20700	20700	Solid Blocks
118	88	10980	180	20880	20880	Solid Blocks
119	88	10980	180	21060	21060	Solid Blocks
120	88	10980	180	21240	21240	Solid Blocks
121	88	10980	180	21420	21420	Solid Blocks
122	88	10980	180	21600	21600	Solid Blocks
123	88	10980	180	21780	21780	Solid Blocks
124	88	10980	180	21960	21960	Solid Blocks
125	88	10980	180	22140	22140	Solid Blocks
126	88	10980	180	22320	22320	Solid Blocks
127	88	10980	180	22500	22500	Solid Blocks
128	88	10980	180	22680	22680	Solid Blocks
129	88	10980	180	22860	22860	Solid Blocks
130	88	10980	180	23040	23040	Solid Blocks
131	88	10980	180	23220	23220	Solid Blocks
132	88	10980	180	23400	23400	Solid Blocks
133	88	10980	180	23580	23580	Solid Blocks
134	88	10980	180	23760	23760	Solid Blocks
135	88	10980	180	23940	23940	Solid Blocks
136	88	10980	180	24120	24120	Solid Blocks
137	88	10980	180	24300	24300	Solid Blocks
138	88	10980	180	24480	24480	Solid Blocks
139	88	10980	180	24660	24660	Solid Blocks
140	88	10980	180	24840	24840	Solid Blocks
141	88	10980	180	25020	25020	Solid Blocks
142	88	10980	180	25200	25200	Solid Blocks
143	88	10980	180	25380	25380	Solid Blocks
144	88	10980	180	25560	25560	Solid Blocks
145	88	10980	180	25740	25740	Solid Blocks
146	88	10980	180	25920	25920	Solid Blocks
147	88	10980	180	26100	26100	Solid Blocks
148	88	10980	180	26280	26280	Solid Blocks
149	88	10980	180	26460	26460	Solid Blocks
150	88	10980	180	26640	26640	Solid Blocks
151	88	10980	180	26820	26820	Solid Blocks
152	88	10980	180	27000	27000	Solid Blocks
153	88	10980	180	27180	27180	Solid Blocks
154	88	10980	180	27360	27360	Solid Blocks
155	88	10980	180	27540	27540	Solid Blocks
156	88	10980	180	27720	27720	Solid Blocks
157	88	10980	180	27900	27900	Solid Blocks
158	88	10980	180	28080	28080	Solid Blocks
159	88	10980	180	28260	28260	Solid Blocks
160	88	10980	180	28440	28440	Solid Blocks
161	88	10980	180	28620	28620	Solid Blocks
162	88	10980	180	28800	28800	Solid Blocks
163	88	10980	180	28980	28980	Solid Blocks
164	88	10980	180	29160	29160	Solid Blocks
165	88	10980	180	29340	29340	Solid Blocks
166	88	10980	180	29520	29520	Solid Blocks
167	88	10980	180	29700	29700	Solid Blocks
168	88	10980	180	29880	29880	Solid Blocks
169	88	10980	180	30060	30060	Solid Blocks
170	88	10980	180	30240	30240	Solid Blocks
171	88	10980	180	30420	30420	Solid Blocks
172	88	10980	180	30600	30600	Solid Blocks
173	88	10980	180	30780	30780	Solid Blocks
174	88	10980	180	30960	30960	Solid Blocks
175	88	10980	180	31140	31140	Solid Blocks
176	88	10980	180	31320	31320	Solid Blocks
177	88	10980	180	31500	31500	Solid Blocks
178	88	10980	180	31680	31680	Solid Blocks
179	88	10980	180	31860	31860	Solid Blocks
180	88	10980	180	32040	32040	Solid Blocks
181	88	10980	180	32220	32220	Solid Blocks
182	88	10980	180	32400	32400	Solid Blocks
183	88	10980	180	32580	32580	Solid Blocks
184	88	10980	180	32760	32760	Solid Blocks
185	88	10980	180	32940	32940	Solid Blocks
186	88	10980	180	33120	33120	Solid Blocks
187	88	10980				

WERTH, KENNETH F., ARVADA, CO
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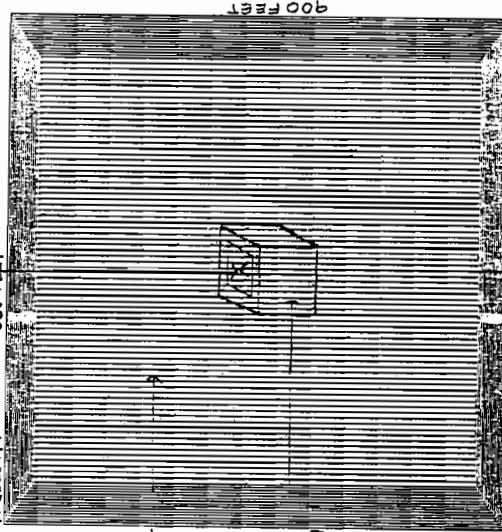
(35684) BLOCKS (AND (1,468,737 CY) OF NUCLEAR WASTE

DESIGNED BY
Kenneth F. Werth

VITRIFIED OR CERAMIC IMMOBILIZATION OF ALL PLUTONIUM
AND SSM METAL AND OXIDE MATERIALS RESULTING IN
40 TON BLOCKS OF (GRANITE) SURROUNDING EACH OF THE
LOW LEVEL NUCLEAR WASTE IN A FLAT TOP PYRAMID 860 FEET
FACTORY.

LOW LEVEL
NUCLEAR
WASTE

40 TON BLOCKS
OF (GRANITE)
SURROUNDING
THE PLUTONIUM
AND SSM METAL
AND OXIDE



ALTERNATIVE FOR LONG-TERM STORAGE AND DISPOSITION OF
FISSILE MATERIAL IN AN ABOVEGROUND FLAT TOP PYRAMID LIKE
FACTORY. THE FLAT TOP PYRAMID COULD BE UTILIZED AT A
NUMBER OF SITES FOR LONG-TERM STORAGE OF ALL OF THESE
LOW LEVEL NUCLEAR WASTE, AND ALSO BE UTILIZED FOR THE
SAFE DISPOSITION STORAGE AND CONTAINMENT OF ALL
PLUTONIUM AND SSM METAL AND OXIDE.

CO-001



WESTINGHOUSE SAVANNAH RIVER CO., AIKEN, SC,
RICHARD R. TANSKY
PAGE 1 OF 2

08 03 01 Comment Number 1

The Department of Energy acknowledges the commentor's support for SRS. Decisions on storage and disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

Date: Wed, 1 May 1996
Subject: FORUM Form - incoming
#serial_no = 164
#MailTitle = FORUM Form - incoming
#name = Richard R. Tansky
#title = Site Training Manager
#company = Westinghouse Savannah River Co.
#addr1 = 116 Sugarberry Rd.
#addr2 =
#city = Aiken
#state = SC
#zip = 29803
#phone = 803 208-0773
#fax = 803 208-0843
#email = rtansky@csra.net
#ctype = public
#subject = Potential Savannah River Involvement

** The following is the text of the Author's Comment.

1/08.03.01

Savannah River Site should be selected for interim and long term Pu and HfEU storage for the following reasons:

Site Infrastructure - Continuing investments in the site's infrastructure make SRS a logical choice for locating Pu and HfEU.

Community Support - The surrounding community strongly supports the continuation of the use of SRS to support the nation's defense programs involving special nuclear materials.

Workforce Readiness - SRS has demonstrated a commitment to upgrading the knowledge and skills of its workforce and currently had the best trained and therefore the best prepared workforce to take on new missions regardless of the technology used.

Management Commitment to Safe Operations - Both the site's radiological and industrial safety record speak volumes about the ability of the site to safely and reliably carry out complex, high-tech missions with minimum risk to the environment and surrounding population.

Environmental Impact Baseline Knowledge - The investment in understanding and monitoring the ecology of the SRS puts this site in front in terms of being able

E-005

WESTINGHOUSE SAVANNAH RIVER CO., AIKEN, SC,
RICHARD R. TANSKY
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to assess environmental impacts and responding to and mitigating them.

Expertise in Fissile Materials - The site experience in the safe production, handling, and storage of both Pu and U, as well as other nuclides, point to SRS as an obvious choice for continuing and expanding this work.

It will be important for the DOE to deal with the disposition issue concurrently with the storage issue in order to overcome the legitimate concerns of the local and state governments that these materials will be accumulated without a certain disposition decision. Therefore, SRS should be chosen for both the disposition and the pit storage missions with the above factors as a basis.

#END comment

1/08.03.01
cont.

E-005

WESTMINSTER CITY HALL COMMENTS, WESTMINSTER, CO,
KENNETH WERTH, ET AL.
PAGE 1 OF 32

ROCKY FLATS
STORAGE & DISPOSITION OF
WEAPONS-USEABLE FISSILE MATERIALS
PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT
FORMAL PUBLIC COMMENTS

Westminster City Hall
4800 W. 92nd Avenue
Westminster, Colorado

Tuesday April 30, 1996

M-235

WESTMINSTER CITY HALL COMMENTS, WESTMINSTER, CO,
KENNETH WERTH, ET AL.
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I N D E X

Speakers from Audience:

Kenneth Werth - Resident of Arvada, Colorado
Thomas M. Rauch - American Friends Service Committee
Jim Stone - Rocky Flats Cleanup Commission
Tom Marshall - Rocky Mountain Peace Center
Allan Trenary - Rocky Flats Citizens Advisory Board
Sam Cole - Physicians for Social Responsibility

Officials:

Carl Sykes
Mariane Anderson

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WESTMINSTER CITY HALL COMMENTS, WESTMINSTER, CO,
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P R O C E E D I N G S

MR. SYKES: Well, we're going to go ahead and start tonight's meeting. The purpose of tonight's meeting is to obtain formal comments for the Material Disposition Programmatic Environmental Impact Statement for the Disposition of Fissile Materials. Even though we don't have a whole lot of focus here tonight, the people from the Material Disposition Office have asked me not to interact with anybody but just to get formal comments so that that will facilitate their answering these questions formally.

We do have a court reporter here, so your comments will be recorded verbatim. And essentially what we're going to do is take the transcript from the court reporter and send it on to headquarters, and this will be part of the Material Disposition Programmatic Environmental Impact Statement. It will be part of that, the response document that they will create for that.

After everyone's given their statements, especially with such a small group here, we can certainly talk informally. But for the formal part of this, basically I can--I'm just going to sit here and smile while you read your formal comments. So I apologize, you know, not being able to answer questions.

Go ahead, Mariane.

MS. ANDERSON: Kenneth Werth, please come to the

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WESTMINSTER CITY HALL COMMENTS, WESTMINSTER, CO,
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(inaudible).

MR. WERTH: Oh, okay.

MS. ANDERSON: Oh, and also, at the beginning of each comment, you need to give your name and state that this is your formal comment for the Storage and Disposition PEIS, okay?

MR. WERTH: Okay. My name is Kenneth Werth and I'm a 60-year resident of Arvada, citizen of Arvada. And I'd like to comment on my vision for the Rocky Flats Environmental Technology Site. I believe that every site that has generated nuclear waste is going to have to take care of their own waste, high-level and low-level nuclear waste. And I've never heard of a concept like I have drawn up in my two and a half years of attending most of Rocky Flats Citizens Advisory Board meetings, and a lot of other ones.

And I've drawn up this flat-top pyramid criteria. It will be an above ground monitored and retrievable storage facility. It would be--the first one would be above ground flat-top pyramid type facility made up of 40-ton blocks of granite, cut 10 feet in length, 7 feet in width, and 6 feet in height. And the engineering feasibilities would be:

A) A 470 by 315 square foot facility situated on approximately base area of 3.40 acres, would incorporate 7,410 blocks, is a total number of 40-ton blocks of granite.

1/14.00.00

14 00 00 Comment Number 1

The Department of Energy appreciates the commentor's submission of the conceptual design of the flat-top pyramid storage facility. However, one of the screening criteria for storage, technical viability, calls for a high degree of confidence that the facility must provide safe and secure storage of nuclear materials for at least 50 years. The structural integrity of this design is not proven, and the size and shape of the facility could attract unwanted attention. Since there is an urgent need for implementation of the Proposed Action, and existing facilities and design can accomplish the storage mission, it would not be prudent to use additional time and cost to develop and demonstrate new designs.

M-235

WESTMINSTER CITY HALL COMMENTS, WESTMINSTER, CO,
KENNETH WERTH, ET AL.
PAGE 5 OF 32

And it would encapsulate 291,416 cubic yards of low-level, low-level mix, level, and transuranic waste in bulk form, leaving the facility center as a place to store 64 high-level nuclear waste capsules of plutonium and highly enriched uranium.

B) would be a 500 by 460 square foot facility situated on approximately a base area of 4.85 acres, would incorporate 9,960 total number of 40-ton blocks of granite, and encapsulate 521,432 cubic yards of low-level, low-level mix, level and transuranic waste in bulk form, and the same number of 64 high-level nuclear waste capsules.

And C) a 900 by 868 square foot facility situated on an approximate base area of 18 acres, would incorporate 35,684 total number of 40-ton blocks of granite, and encapsulate 1,968,237 cubic yards of low-level, low-level mix, level, and transuranic waste in bulk form, and also incorporate a higher number than the 64 high-level nuclear waste capsules.

And I'm just coming to the calculation of this project. It would be in a six-year sequence of getting the program started, excavating the roads and the ramps. And a structure like this, if you had a lower number of nuclear waste that you would have to store, you could cut out a couple levels of the structure, flat-top structure. And I'm basing this structure on seventeen levels, and the two lower

1/14.00.00
cont.

M-235

WESTMINSTER CITY HALL COMMENTS, WESTMINSTER, CO,
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levels would be built above ground and they would be solid blocks of interwinding floors on the first and second levels. And then as you could start on the third level, going up the sixteen levels, 120 feet high, you could get this, especially 900 by 868 square foot facility, you could put over 1,961,000 cubic yards in it. And this would be an above ground facility.

And now I'm talking about the cost. If you would lay it out in a six-year sequence, this here one, 900 by 868, that would incorporate 35,684 total number of 40-ton blocks, would encapsulate 968,237 cubic yards. And based on a six-year building time frame, that there structure could be built for about--probably about \$300 million at \$9,000 a block. And I think that there's a quarry up in Wyoming right now that has 800 quarry all kinds of granite that they could quarry these here blocks between \$9,000 and \$10,000 a block.

And as stated, is the cost realistic? Really, if you look at--see, you're also going to have to address the low-level nuclear wastes. People ain't going to let that sit out there and be driven downstream from the Rocky Flats site with these 100-mile-an-hour winds to Westminster or Arvada, Edgewater, Lakewood, Golden, Douglas County. See, the citizens just ain't going to sit downstream from that and let you bury that waste.

I haven't completed all my analysis of this scheme.

1/14,00.00
cont.

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but I think it would be worth looking at.

MS. ANDERSON: Thank you, Mr. Werth.

Next is Tom Rauch.

MR. RAUCH: My name is Thomas M. Rauch, R-A-U-C-H. I'm on the staff of the American Friends Service Committee in Denver. These are my comments for the Draft Storage and Disposition of Weapons-Usable Fissile Materials Programmatic Environmental Impact Statement. Amen.

I'm very grateful to the Department of Energy for scheduling this second public comment hearing in order to provide more time for citizens to review the Draft Storage and Disposition of Weapons-Usable Fissile Materials PEIS prior to offering their comments. I'm very disappointed there are not more people here tonight and very grateful that you've come out on another evening to give another evening of your time for this.

I have four main points I would like to make, and I'll present a written copy of my statements to the reporter.

First, a major priority is that plutonium and highly enriched uranium be stored and disposed of in ways that pose least threat to human health and the environment. The health and safety of the persons charged with handling these materials should be given special attention. I want to emphasize this point, not because I think Department of Energy employees and contractors will do their work in a way

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01 06 00 Comment Number 2

That is the goal of this effort.

that is dangerous to themselves, but because I fear that the federal government, especially the Congress, will cut funds for storing and disposing of these materials just as the Congress is presently making substantial cuts in funds for waste management and environmental restoration at DOE nuclear weapons facilities. The current attitude in Washington is to increase funds for DOE weapons programs while cutting funds for dealing with the legacies of 50 years of the nuclear arms race. This attitude is immoral, short-sighted, and very dangerous for people and the environment. The Department of Energy must have as its primary goals effective and safe waste management, effective and safe environmental restoration, and effective and safe storage and disposition of weapons-usable fissile materials. The DOE should cease all efforts at research, development, testing, engineering, and production of new nuclear weapons--activities that are proposed in the DOE's Stockpile Stewardship and Management Program.

Secondly, a major--second major priority is to assure that the weapons-usable fissile materials are stored and disposed of in ways that make them most resistant to the possibility of nuclear weapons proliferation. I'm not an expert on these technical issues, but I think I can suggest that materials from retired weapons should be treated in such a way, perhaps contaminated or diluted or both, that makes

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their reuse for weapons difficult and/or dangerous. My third point, storage and disposition options should be chosen so as to minimize the waste generated by these activities. The vast quantities of waste produced by nuclear weapons production and still awaiting safe storage and disposition remind us of the folly of producing additional wastes if this can be avoided. So I urge the DOG to put more resources into testing the viability of glassification as a means of disposing of plutonium. My sense is that the DOG has up to this point put most of its resources into the option of using these fissile materials as fuel in reactors for commercial purposes. Such use, I am concerned, would create even more waste materials and would also involve proliferation risks.	3/08.03.01	08 03 01	Comment Number 3	The Department of Energy acknowledges the commentator's support for the Immobilization Alternative. Decisions on disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.
Number 4: The present administration has declared certain amounts of plutonium and highly enriched uranium to be "surplus" and a waste. I urge that all of the materials in the present stockpile be declared "surplus" so that the United States may move expeditiously, along with other nuclear powers, to fulfill the commitment made in 1970 in the Nuclear Non-Proliferation Treaty. Article VI of that treaty, which was continued in force indefinitely at the 1995 renewal conference, states: "Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an	4/05.00.07	05 00 07	Comment Number 4	Comment noted.
5/01.00.00	01 00 00	Comment Number 5	Comment noted.	

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early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control."

Twenty-six years have passed since the United States and other nuclear powers made that commitment to nuclear disarmament. If the United States were to declare all of its present fissile materials "surplus," such a declaration would signal the U.S.'s intention to move toward nuclear disarmament and would also encourage the U.S. to step up the pace of multilateral disarmament efforts.

My final point is to Department of Energy headquarters and the secretary. The Department of Energy as a participant on the Nuclear Weapons Council, which makes decisions about the size and shape of the U.S. nuclear weapons arsenal, can and should play a lead role in calling for even lower stockpile numbers than the stockpile of 1,000 nuclear weapons, which is presented as an option in the Draft PEIS for Stockpile Stewardship and Management. I commend the DOE for listing this option, which is much lower than the START II protocol of 3,500 weapons. But I urge that even lower options, including a zero option in line with a declaration that all weapons-usable fissile materials are "surplus," be considered in all present and future planning.

The Department of Energy, by its role on the policy-making Nuclear Weapons Council, does not simply "fill

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orders" given by the Department of Defense and approved by Congress and the president. The Department of Energy participates in making nuclear weapons policy and so cannot avoid responsibility for decisions about numbers of weapons in the present and future arsenals. I urge the Department of Energy to press for lower stockpile numbers, including a zero option, in Nuclear Weapons Council deliberations.

Again, I thank the Department for this additional hearing, and thank you, especially, for your presence here tonight.

MS. ANDERSON: Thank you, Mr. Rauch.

Mr. Stone, Jim Stone.

MR. STONE: Good evening, ladies and gentlemen, my name is Jim Stone, I am the technical advisor of the Rocky Flats Cleanup Commission.

I have finished reading the PEIS on the stewardship of fissile material and also the storage and disposition of fissile material. And I wasn't going to come to this meeting, but at the last minute it occurred to me that I had a couple of things to get straight in my mind.

DOE has been authorized to surplus tons of plutonium and high-level uranium. Now, the high-level uranium has a value on the power market, so there's no mention of destroying it or putting it in any kind of a permanent disposal mode. But there is a number of tons,

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In accordance with existing agreements, DOE is moving toward the removal of all weapons-usable fissile materials from RFETS. This is the reason that all alternatives for long-term storage in the PEIS include the environmental impacts of the removal of the materials from RFETS.

maybe 10 percent of our inventory of plutonium, that is going to be surplused. It seems to me it is logical to take that much tonnage out of Rocky Flats, and maybe some other small site that doesn't have the capability of storing this material properly, and dispose of it.

6/08.03.00

Now, when you get through with this public presentation or participation on this PEIS, you're going to review it for a couple months and then decide where you're going to ship it, because in the PEIS documents it lists Rocky Flats as "no action". So we're obliged to store it properly, because we're in a very dangerous mode with the proximity of a large metropolitan area. So we've got to do something with it.

Planning to modernize Building 371 and maybe a number of other schemes I'm not familiar with. But that is wasted money when you think that it's going to be temporary, hopefully months, not years, but it may be years. But we do know that at least that amount of plutonium that is stored at Rocky Flats is going to be surplused and going to be permanently disposed of somewhere.

I ask DOE to consider allowing--giving Rocky Flats the latitude to dispose of it there, cut the cost, get it done with, and so that we can get on with the cleanup. Maintaining this material is really a bottleneck to the cleanup operation. We have a lot of serious work to do at

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Rocky Flats, and this only impedes progress and wastes a lot of money.

Now, let's see. I will write this up and send it in at a later date, before the 7th, but that's my general concern.

I really wanted to ask you, what is your time schedule, but since you're not authorized to make a reply, I won't get that answered. I doubt if it's established yet. And then after the six months or two months of review time, you may come up with a different answer. So we've got to wait on that.

7/07.00.00

But we don't have to wait to say we know you're going to dispose of at least 20 tons of plutonium. Rocky Flats has 14 tons, get rid of it any way you can. We'll honor your suggestions and get on with it so that you don't have to delay your cleanup program.

Thank you. Any questions?

MR. SYKES: I'll let M.D. formally reply to your comments, but if you do stick around, we can talk about the time tables after the meeting's over.

MR. STONE: Alright, thank you.

MR. SYKES: Um-hmm. Thank you.

MR. STONE: Incidentally, Stone Environmental Engineering Services, which I'm the vice president of engineering, would be glad to give you a design on how that

07 00 00 Comment Number 7

Generally, the goal is to complete disposition within 25 years after the ROD. The storage decision will be for long-term storage, up to 50 years. Schedule data, along with technical and cost data, were provided in Technical Summary Reports of both storage and disposition beginning in late July 1996.

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can be disposed of. We have focused too narrowly on the concepts that come out of headquarters. They don't have a hell of a lot of imagination there, in my estimation. I don't doubt that they've got the technology, but they don't have much imagination, and I suggest that we expand on that a bit. Thank you.

MS. ANDERSON: Thank you, Mr. Stone.

Is there anyone else who would like to offer formal comment at this time?

(Pause.)

MS. ANDERSON: Would you please state your name and that this is your formal comment for Storage and Disposition of Fissile Materials PEIS?

MR. MARSHALL: How long do I have?

MS. ANDERSON: A week to ten days.

MR. MARSHALL: I can do as long as I want here, till they shut down tonight?

MS. ANDERSON: We've got water.

MR. MARSHALL: What's that?

MS. ANDERSON: We've got water.

MR. MARSHALL: Oh, good. Okay.

MS. ANDERSON: Start with your name, please.

MR. MARSHALL: I thought I was going to have a little while to prepare.

My name's Tom Marshall, I work with the Rocky

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Mountain Peace Center in Boulder, Colorado. These comments are on the Department of Energy's Draft Programmatic Environmental Impact Statement for Storage and Disposition of Weapons-Usable Fissile Materials. These comments are not intended to be exhaustive. We will be submitting further written comments. I did, however, want to touch on a few points this evening.

The first of these, and the primary point that I would like to make, is that what we have here is not really a Programmatic Environmental Impact Statement on Storage and Disposition of Surplus Fissile Materials. We do not have any viable disposition options outlined in this PEIS. There are problems with every--with all of the disposition options listed, the MOCS option, the immobilization option, and the deep borehole option.

We have a serious challenge in front of us. I'm going to go back to these options and talk a little bit about some of the deficiencies. But we have a serious challenge in front of us right now. We have a window of opportunity in which the U.S., working with Russia and the other former Soviet Union states, can move to remove a good portion of the fissile materials, and therefore eliminate, to a certain degree, concerns about proliferation of these materials, making the world overall a safer place. If we had a viable disposition option at this time, it would be wise to take it,

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but we don't, as I said.

The MOCS option is the worst of those listed and it should be rejected outright. Some of the problems with the MOCS option are: that it's costly, it's going to cost more than other options listed; it would take longer than the immobilization option to implement; it will generate a lot of high-level waste that we don't currently have an answer for; it's dependent upon a repository that we don't have and we have no idea when we're going to have it; it creates numerous opportunities through the processes that it will have to go through for theft of plutonium; and perhaps the most--the worst part of this option is that it could--it stands to set up a plutonium economy, it creates the illusion that there is some value in this material and could encourage other countries to use it as--to see it and use it as a resource. It would send the wrong message to the rest of the world. What we need to be doing at this point is telling the rest of the world that this material is dangerous material, it needs to be taken out of circulation, and that it is a waste. This option doesn't do that.

The immobilization option also has problems as a disposition option.

The one thing I didn't mention about the MOCS option, all of these options can be reversed. There's not one of them that can't be reversed. Under the MOCS option,

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you can reprocess the spent fuel and extract those. So any country can do that. It would obviously be harder for a sub-national group.

Same goes with the immobilization option. Either vitrified or ceramified material could be--the plutonium in that could be extracted. So as a disposition option, at this point it's not a proven option. It, too, at this point is dependent upon a repository that we don't have.

The deep borehole option needs far more research, and conceivably, that option, too, could be reversed.

So what we're left with, then, is a long-term storage EIS, and that's not bad. I think that what we need to do is recognize that we don't have viable options for disposition right now, and we need to identify ways to store our surplus fissile materials in a manner that reduces the risk of proliferation as much as possible.

One fault of the EIS in analyzing long-term storage is that it looks at only one sort of container, what's commonly called the 50-year can. We should not be limited in that way of thinking. And if we are admitting that we don't currently have viable disposition options, that raises a whole host of alternatives. And what we have in front of us right now, currently considered a disposition option, is immobilization. Immobilization should be looked into further as a long-term storage option which would reduce

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the risk of proliferation.

And the few technologies that should be considered are vitrification and ceramification. We have a fair amount of research done on that. We can move quickly to implement that. The electrometallurgical processing should be rejected because it would involve bringing plutonium to a metal state, which if we're thinking about proliferation concerns is not wise. It is also a complicated process which is not congruent with the notion of safety for workers and protection of workers' health.

It would be wise at this point for the U.S.

Government to set up at least one pilot plant, one pilot scale facility, to test vitrification of plutonium and one to test ceramification of plutonium. It might be wise to set up more than one of each. But that is what should be done, at a minimum.

So to review, there should not be an option

selected under disposition. The MOCS option should be

rejected immediately. We should be looking at long-term

storage options. We should consider immobilization options

as long-term storage options. There is further research

needed on these options to determine just how we do that,

whether we mix highly radioactive substances, such as cesium,

in with them, whether we add other poisons, such as alpha

emitters, whether we put a highly irradiated jacket around

08 03 00 Comment Number 8

The Department of Energy acknowledges the commentor's support for continued storage of surplus Pu (No Action Alternative). Decisions on disposition will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

08 03 01 Comment Number 9

The Department of Energy acknowledges the commentor's opposition to the Reactor Alternative using MOX fuel. Decisions on disposition of weapons-usable fissile materials will be made based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

08 03 01 Comment Number 10

The Department of Energy acknowledges the commentor's support for the Immobilization Alternative. Decisions on disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

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01 00 00 Comment Number 11

Comment noted.

08 03 01 Comment Number 12

The Department of Energy acknowledges the commentor's opposition to the disposition alternatives. Decisions on the disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

11/01.00.00

the glass or ceramic matrix rather than mixing that in. And in order to make these determinations, we need to establish pilot plants to further develop the technology. We should move quickly on this option while further exploring final disposition options.

Thanks. As I said, we will be submitting further written comments.

MS. ANDERSON: Thank you, Mr. Marshall.

Is there anyone else that would care to make formal comment at this time?

(Pause.)

MR. WERTH: Oh, I would like to comment on Tom Marshall's--if I'm able.

MS. ANDERSON: Okay, Mr. Ken Werth.

(Inaudible conversation outside the range of the microphones.)

MR. WERTH: I got this comment form for the Storage and Disposition of Draft PEIS, and I would voice Tom Marshall's concern. And I find two of the three alternatives, deep borehole and reactors, unacceptable in the storage and disposition of plutonium and S and M metals and outside materials. Comment: deep boreholes, if we are ever going to solve this nuclear waste problem, this Government of the United States should relax its single-minded focus on irreversible geological burial and turn to some form of

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secure storage and disposition that allows both continuous monitoring--and I've looked at this monitoring. Why couldn't the United States have spy satellites that's been placed in the stationary orbit 22,000 miles above the earth, and they can pinpoint this kind of structure that we'd be looking at, and we could have continually monitored surveillance of this here facility? And it should be retrievable, if it had to be. (Inaudible) borehole burial does not resolve waste management problems for our children, grandchildren, and future generations, but ironically, that entombment does precisely the reverse.

Reactors: The conclusion of plutonium and highly enriched uranium as a reactor fuel used as a United States option would be a serious hindrance to achieving an internal global halt to reprocessing or to non-proliferation goals, long time frame and high technical uncertainties. The United States has already given up civil use of plutonium for non-proliferation, as well as for economic reasons.

If we are ever going to translate our position to a global leadership role over Russia and China on this crucial issue, it would be wise for the United States to look at all the security concerns. That leaves no currently feasible solutions to rid these materials for good that present problems of potentially increasing proliferation threats, creating new environmental problems, and/or aggravating old

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14 00 00 Comment Number 13

Comment noted.

ones at huge costs, in the billions of dollars.

I would then suggest that the United States formally declare excess plutonium a security economically and environmentally liability and forewear its reuse in weapons.

I would support two concepts, and that would be one in the building of a flat-top pyramid type facility above ground that would encapsulate all the plutonium and highly enriched uranium materials by 40-ton blocks of granite. And it would be a concept for the complete storage, disposition, containment, and transportation of plutonium and highly enriched uranium vitrified in glass or ceramic immobilization in six to eight hollowed out cores of 40-ton blocks of granite. This concept would solve all the storage, disposition, and containment problems and then be transported by rail or truck to remote areas of the southwestern desert region or the Salt Flats of Utah, stacked five or six high, would provide a low-cost, low-maintenance, and long-term storage disposition and containment method for all this high-level nuclear waste.

You could--there is thousands of tons of spent nuclear fuel rods that the United States Government is going to also have to look into, and this would be an ideal method to address that, too. But I'm concerned about all the high-level waste out there.

We should also start considering what we're going

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its use will save billions of dollars without diverting construction materials such as concrete from its additional use in continuing the development of our infrastructure. Work could begin almost immediately in one or more places and could be completed in a shorter period of time than with conventional methods and materials.

An above-ground pyramid will provide safe storage of spent nuclear fuel, plutonium, and highly enriched uranium, and will be seen to be the first state-of-the-art facility, on-site storage facility, in the world. And I mentioned a 900-foot by 868-foot above-ground pyramid proposed on only 18 acres of land. Then it's more than 120 acres that's needed for an underground waste dump. You call it cells, but I call it a waste dump. And that's the way it should be looked at.

If estimates of waste quantity are not accurate, the pyramids can be kept at a lower level or additional levels can be added if more waste is accumulated out there. Pyramids can be sized for each site based on the estimated quantity of waste to be stored.

The last one. The work site in New Mexico will be stalled for years by public outcry, litigation concerning transportation, and other issues that will doom this project, if it hasn't done so already.

That's all I've got to say.

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MS. ANDERSON: Thank you, Mr. Werth.
Any further public comment?
(Pause.)

MS. ANDERSON: Mr. Marshall.

MR. MARSHALL: Tom Marshall, Rocky Mountain Peace Center. Just one small point--well, one quick point, it's not a small point, that I forgot to mention before. When Mr. Canter was out at a previous hearing, the issue of cost estimates for the MOCS option was brought up, and we were told at that time that those are still being developed and that they will be factored into the final PEIS. And I'd simply like to lodge a complaint about that at this point. Any factors which are going to go into the decision-making on this PEIS should be out for full public review so that the public can make informed comment on that. That's it, I just wanted to make sure that that point got into the record. Thanks.

MS. ANDERSON: Thank you.

MR. SYKES: Well, unless someone else shows up for formal comments, I'd like to talk to a few of you all, and we can now just have informal conversations, I guess, unless someone else shows up.

(Off the record.)

MR. SYKES: I want to make one point, and that is the Office of Material Disposition did ask that the comments

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be non-interactive, so we ask you to go ahead and make your formal comments, and then afterwards we can certainly discuss things, answer questions, and have interaction. But as for the formal comment, just you state it and--

MR. TRENARY: I've only got a--

MS. ANDERSON: He's in a hurry.

MR. SYKES: --very short period of time here that I can attend this meeting tonight. I regret having missed the other comments that were made earlier by other people, since I couldn't be here earlier due to baby-sitting problems I had tonight.

My name is Allan Trenary and I live over by Rocky Flats, I live off of 100th and Simms. I'm very concerned about the cavalier attitude that the government has taken in many instances when it comes to nuclear weapons and fissile materials in general. Sometimes I feel in my heart that they--that the government's got the attitude, "Well, hey, we were going to have a nuclear war with this stuff and we'd never be responsible for it anyway, so carry on and do what you have to do." And I realize that there are a lot of people who are wholeheartedly and honestly working on this to come up with a good solution to our problems.

I work with some Russian people, and one of them is a civil engineer from Kiev, and he helped with the evacuation of the people from around Chernobyl. And talking to this man

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is a very sobering and frightening experience, because their numbers of refugees were in the tens of thousands. In the event that something terrible is to happen at Rocky Flats, it would be millions of people that would have to be moved. And the costs are just so astounding to clean up the messes currently there in a way that there's nothing--if nothing happens, the costs will be astronomical. And I see bickering over these issues, when this is--this is our future. This is our children's future.

And I would really in my heart want to see this addressed in a fashion which is even handed. When you have the EPA arresting a man back east for spilling apple juice in the sewer and not reporting it in his paperwork and we have all this transuranic waste that's slated to go into either WIPP or Yucca Mountain or wherever, and these things I've been hearing about for years that haven't happened yet and, you know, people don't want it to go across their state lines and people don't want it on their highways, so they're not going to want it in their state. I want to see some serious efforts made in containing these materials.

The hydrogen gas building up in the tanks in Building 371 is a very frightening concept to me should something happen. Sure, it might not directly contaminate the people here, but it will have a further--a larger mortgage on Building 371. And these tanks, as I understand,

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are in a contaminated room which are--you have to have breathing apparatus to get to it, and just recently have begun to be tapped and analyzed. Well, how long have these tanks been sitting idle? Why wasn't this addressed sooner?

When I talked to Isaac, this man I work with who helped clean up after Chernobyl, the vastness of this issue just--it's tremendous. And we really need to ask the government to focus a little bit more attention on getting this taken care of. I see them meddling with regulations and stuff concerning the EPA, and they don't seem to hold themselves accountable to these laws. I want to see the government starting to be accountable to themselves to the level which they consider the private citizens to be required to be accountable for environmental damage and things like this that are just cavalierly thrown out.

The Leiden-Wignight Mine (phonetic), whoever put 16 billion cubic feet of natural gas, our entire natural gas supply for the Denver metropolitan area, is stored in a coal mine which is in very close proximity to Rocky Flats. This is strategic insanity. If there was actually a war and somebody hit that thing in the middle of winter, we'd all freeze to death, not to mention the possibility of what else could happen with the proximity to Rocky Flats. I've been told that there are radionucleides and radioactive contamination in the water that seals the bottom of this

14/01.00.00

15/09.04.07

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01 00 00 Comment Number 14

Comment noted.

09 04 07 Comment Number 15

Groundwater, including radionuclide-contaminated groundwater, would not come into contact with natural gas used for home utilities. Therefore, any contaminated groundwater at the mine would not affect the local natural gas supply.

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mine. Is this affecting our natural gas that we all use to heat our homes and to heat our water?

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|cont.

Sometimes I feel as though the government has gotten to the point of criminal negligence when it comes to the hazards that are out there at Rocky Flats for the citizens. I know I'm using some strong language in these statements, but how else are we to feel at times. I'm very thankful for the opportunity to be able to speak with you on these issues and thankful for the opportunity to be involved with the Rocky Flats Citizens Advisory Board. And I just sincerely hope that it's for real and it's not just a show, that we're actually causing some impact by what we do by coming out here and talking to you people.

When Leroy tells me that the monitoring has gone down, or at least the reporting on the monitoring of the emissions from Rocky Flats are not being regularly received or something. When I went up to Rocky Flats recently, the low-level waste containment buildings, which are like these heavy plastic greenhouses, were all in shards and the wind was blowing them and they were flapping. I have to wonder if this might not have something to do with the reason why the monitoring might be slacking off a little bit as the fact that we might be getting a little bit more stuff going around right now because of the damage to these facilities.

You know, I don't want to ramble, I realize there

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are other people that need to speak, and once again, I would like to thank you all for allowing me to participate and put forward my views. But once again, I really want to emphasize that it's time to start seeing these government agencies having to toe the line that we, the private citizens, are expected to toe when it comes to these environmental protection laws.

And you can't tell me that in the name of national security we shouldn't know these things, or in the name of national security that we should accept toxic levels of contamination as just something that we have to live with in order to be safe, as I don't accept that, and I'd hope that you don't accept that. And hopefully everything will go find and we'll eventually get these materials out of here. But in the meantime, please, let's get them stored in a way to where they're not--we don't have plutonium vulnerabilities at Rocky Flats.

Let's--you know, it's very frightening to me to think that it's been since 1989 or so since this has all been shut down and we're now getting around to it seven years later, doing something cohesive about it. You'd think that it would have started right now, you know, but it's taken this long. Hopefully, by the year 2015 or so, it will be all gone. I have that--I hold that as being a real possibility, and I appreciate that there is a day.

M-235

WESTMINSTER CITY HALL COMMENTS, WESTMINSTER, CO,
KENNETH WERTH, ET AL.
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01 00 00 Comment Number 16

Comment noted.

Thank you very much, I appreciate your time.

MS. ANDERSON: Thank you, Mr. Trenary.

Mr. Cole.

MR. COLE: My name is Sam Cole, I'm the director of the Colorado Chapter of Physicians for Social Responsibility, here tonight to comment on the Draft PGIS on the Storage and Disposition of Special Nuclear Material.

I appreciate the DOE's willingness to listen to the community about what's going to be done with plutonium at Rocky Flats. I just wish the community was here. And I just think it's too bad that they aren't--that more people aren't here and we aren't hearing from more people. I think that it's an issue that concerns people, but I don't know why they're not here. And I'd like to see the DOE do a better effort to getting turnout.

First thing that I would like to say in regards to the disposition of the plutonium that we have out at Rocky Flats, there are three guiding principles that I think the DOE should abide by: number one, that the plutonium should be disposed of or dispositioned in a way that least harms the environment, least--there is the least public exposure to prevent any sort of health effects or environmental contamination; number two, that whatever disposition option the DOE chooses that it--that the plutonium is regarded with no use, in other words, the option makes plutonium--or treats

16/01.00.00

M-235

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KENNETH WERTH, ET AL.
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08 03 01 Comment Number 17

The Department of Energy acknowledges the commentor's opposition to the Reactor Alternatives. However, NEPA requires that DOE look at all reasonable alternatives and, therefore, reactor burning must be considered. Decisions on the disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

plutonium as a waste, and not as anything that's an asset or has any use; and the third guiding principle is that whatever option DOE chooses, that option should prevent as much as possible the reuse of plutonium in nuclear weapons and no, in DOE's words, "proliferation," as proliferation-resistant as possible.

16/01.00.00
cont.

And we support the National Academy of Sciences' recommendation that surplus plutonium abide by the spent fuel standard, abide by the stored weapons standard, but we also support that it adopt the nuclear waste standard, meaning that whatever option is chosen produces the least waste out of all the options.

And that leads me to the option that the Department of Energy is considering, which is using plutonium--to turn it into a fuel to be used in reactors. That would produce a very diluted but a still radioactive waste of much greater magnitude than we should have to bear. Therefore, that's one reason why the fuel option should be rejected.

17/08.03.01

Another reason is it gets plutonium some legitimacy, it gives it a use, it makes it an asset. That's a real mistake if you want to prevent the proliferation of nuclear weapons around the world, because you start legitimizing the use of plutonium and other countries are saying that they're using their plutonium for civil purposes, it's going to be very hard to know if they may be using it

M-235

WESTMINSTER CITY HALL COMMENTS, WESTMINSTER, CO,
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for military purposes. So we don't think it's worth the risks that the fuel option would entail.

And that leads me into, well, what should you do with the plutonium? And we support immobilizing the plutonium, possibly vitrifying it. This stabilizes the plutonium, it treats it as a waste, it prevents--it prevents the reuse of plutonium as much as the reuse of plutonium can be prevented by embedding it in glass, and therefore addresses the proliferation aspect in a way that the fuel option does not.

And as far as Rocky Flats goes, we think that issues around Rocky Flats should be addressed in the PEIS, since plutonium will be at Rocky Flats for years to come. I call it the long term, and I think that the DOE should waste no time in considering the disposition options for plutonium while it's at Rocky Flats, such as start vitrifying it, start doing something that will make it more proliferation resistant and more stable.

Thank you.

MS. ANDERSON: Thank you.

Are there any other formal comments at this time?
(No audible response.)

MS. ANDERSON: Thank you for coming.
(Whereupon, the public comments portion of the meeting was concluded.)

12/08.03.01
cont.

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WESTMINSTER CITY HALL COMMENTS, WESTMINSTER, CO,
KENNETH WERTH, ET AL.
PAGE 32 OF 32

REPORTER'S CERTIFICATE

I, LYNNE DERBY, do hereby certify that I was present at and recorded the proceedings in the foregoing matter; that I thereafter reduced my recorded tapes to typewritten form, comprising the foregoing transcript; further, that the foregoing transcript is a full and accurate record of the proceedings in this matter on the date set forth.

Dated in Denver, Colorado, this 5th day of May, 1996.

Lynne Derby

M-235

WHITE, C. E., JR., IDAHO FALLS, ID
PAGE 1 OF 1

08 03 01 Comment Number 1

The Department of Energy recognizes the commentor's concern with the Borehole Alternatives. Decisions on the disposition alternatives will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

08 03 01 Comment Number 2

The Department of Energy acknowledges the commentor's support for additional missions at INEL. Decisions on storage and disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

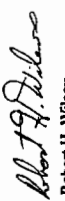
 UNITED STATES DEPARTMENT OF ENERGY OFFICE OF ENVIRONMENTAL RESTORATION AND WASTE MANAGEMENT WASHINGTON, D.C. 20545	
NAME (Optional):	C. E. White, Jr.
ADDRESS:	P.O. Box 50616, Idaho Falls, ID, 83405-0616
TELEPHONE:	208 532-5656
With the facilities that are in place and the expertise available, the INEL is the most appropriate facility for this program. We also have in place an agreement between our governor & the Federal Gov't., backed by the Federal Court system which should silence some of the fraction. I am NOT in favor of bone holes on the INEL site, due to our aquifer, which is the "lifeline" of the entire area of our state. The glass or ceramic consolidation is best for us. The ANL-W facility here is an excellent source of facilities and expertise on the plutonium question. Due to downsizing of other programs the INEL has the space and the people (expertise) available to handle this better than any of the other facilities being considered. I am a retired Construction Manager/Engineer who has been involved in the civilian power work, the programs at NTS (Yucca & Jackson Flat) and the INEL. Most of the people that would be in opposition to the INEL being involved are not really cognizant of the operation and the SAFETY of the INEL site.	

1/08.03.01

2/08.03.01

M-047

WILCOX, ROBERT H., MARTINEZ, GA
PAGE 1 OF 1

711 FEVERO ABBEY CIRCLE MARTINEZ, GA 30907 MAY 3, 1996 DEPARTMENT OF ENERGY OFFICE OF FISSILE MATERIALS DISPOSITION P.O. BOX 23786 WASHINGTON, D.C. 20026-3786 I appreciate receiving a copy of DOE/EIS-0229-D, "Storage and Disposition of Weapons-Usable Fissile Materials - Draft Programmatic Environmental Impact Statement", dated February 1996. I wish to make a few comments on the subject, which I believe are most pertinent to DOE decisions on plutonium storage and disposition:	1/08.03.01	2/08.03.01	3/06.00.09	4/01.00.00
1. In regard to material which is being preserved for possible future weapons use, it would be advisable not to store it all in one place. The national security interests should take precedence over other considerations and the uncertainties of the long term future would suggest that we do our utmost to preclude relatively easy targeting by some particular adversary of this most valuable national resource.				
2. Plutonium is a most valuable commodity. That which is not needed for weapons should, under appropriate safeguards, be made available to fuel power reactors, a concept which is already well along in development at many places outside our borders. (In other words, those options which implicitly or explicitly regard it as a waste should not be pursued.)				
3. While there are no doubt pros and cons to using plutonium in each different type of reactor, DOE would be well advised not to decide which type will get its plutonium. Rather, it should fashion a broad-scope program to permit the private sector (again, under appropriate safeguards), in the U.S. and possibly beyond, to utilize the world's excess plutonium as an alternative fuel to U-235 in commercial reactors of all possible types.				
4. Last, but by no means last, DOE should embrace and implement the recommendations of the American Nuclear Society's Special Panel Report of August 1995. History will judge it harshly if it does not do so.				
Sincerely,  Robert H. Wilcox				

M-138

08 03 01 Comment Number 1

The Department of Energy acknowledges the commentor's opposition to the Collocation Alternative. Decisions on storage of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

08 03 01 Comment Number 2

The Department of Energy acknowledges the commentor's support for Pu disposition in reactors. Decisions on disposition will be made based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

06 00 09 Comment Number 3

Comment noted.

01 00 00 Comment Number 4

The Department of Energy appreciates the effort of the American Nuclear Society's Plutonium Panel and has taken many of the ideas and suggestions presented into consideration.

WILCOX, RODNEY C., AIKEN, SC
PAGE 1 OF 1

08 03 01 Comment Number 1

The Department of Energy acknowledges the commentor's support for SRS. Decisions on storage and disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

08 03 01 Comment Number 2

The Department of Energy acknowledges the commentor's support for the Reactor Alternative using MOX fuel. Decisions on disposition of weapons-usable fissile materials will be based on environmental analyses, technical and economic studies, national policy considerations, and public input.

 Comment Form This form is to be used by the public to submit comments on the Department of Energy's actions. It should be filled out and submitted to the Department of Energy, Washington, D.C. 20585. The Department of Energy will respond to all comments received by the deadline date indicated on the form.	
NAME: (Optional)	RODNEY C. WILCOX
ADDRESS:	44 CADDAGE CT., AIKEN, SC 29801-7710
TELEPHONE:	(803) 698-1456
SRS SHOULD RECEIVE A MAJOR PORTION/LARGE IN EACH OF THE RESPECTIVE DECISIONS. PROGRAMS AS DETERMINED IN THE RECORD OF DECISIONS. THAT THE PEOPLE, FACILITIES, INFRASTRUCTURE, AND EXPERIENCE THAT UNDERLIES SRS, SECURE, CALIBERED, AND INTERFERABLE OPERATIONS, MANAGEMENT, AND SUSTAINABLE DISPOSITION OF WEAPONS-USABLE FISSILE MATERIALS. IN GENERAL THE SUPPORT FOR ADJACENT COMMUNITIES IS VERY FAVORABLE AND THIS SUPPORT WILL GREATLY ASSIST DOE IN ACCOMPLISHING THE DESIGN MANDATE. FOR BETTER REASON, THE EXCESS WEAPONS-GRABED PLUTONIUM SHOULD BE UTILIZED TO MAKE MIX FUEL. SMALLER AMOUNT SHOULD BE ELIMINATED AND RECYCLED TO ALLOW SUCCESSFUL USE OF MIX FUEL.	

1/08.03.01

2/08.03.01

SR-001

WILSON, STEVE, AIKEN, SC
PAGE 1 OF 1

 Comment Form These comments apply to the following documents: Storage and Disposition of Weapons-Usable Fissile Materials Final Environmental Impact Statement Part 1: Site-Wide PEIS		United States Department of Energy
NAME (Optional):	Steve Wilson	
ADDRESS:	2247 Highway 2000 Aiken, SC	
TELEPHONE:		
	I FULLY SUPPORT THE CONSTRUCTION OF THE NEW KIND OF THE FISSILE MATERIALS. THIS EXCHANGE THE SECURITY AND THE MAINTENANCE OF THE MATERIAL.	1/08.03.01
	Comments to current political position, cost and consequences to exhaust on energy resources and cost need to seriously pursue the use of these fissile materials for the generation of electricity on other energy forms. As a part of this, a department should not be maintained to ensure that sufficient quantity of fissile materials are available, available, accessible to meet the demand.	2/08.03.01
	THE ISSUE WAS NEAR TO COMPLETION AND SUFFICIENT AND WOULD OF THE PROCESS BEING OF THESE MATERIALS	3/01.00.00

SR-002

08 03 01

Comment Number 1

The Department of Energy acknowledges the commentor's support for the Consolidation Alternative. Decisions on the storage of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

08 03 01

Comment Number 2

The Department of Energy acknowledges the commentor's support for Pu disposition in reactors. Decisions on disposition will be made based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

01 00 00

Comment Number 3

Analyses of the technology, cost, schedule, and Nonproliferation Policy impacts of the reasonable alternatives discussed in this PEIS are presented in separate documents to support the DOE's ROD. The cost, schedule, and technical analyses were made available for public review beginning in July 1996. The nonproliferation analysis was made available to the public beginning in October 1996.

WINK, ANNA MARIE, AMARILLO, TX
PAGE 1 OF 1

Anna Marie Wink 17201 FM 245 Amarillo, Texas 79107 May 6, 1996	To the United States Department of Energy Office of Civil Materials Operations P.O. Box 23786 Washington, D.C. 20026-3786	I am sure you receive all sorts of pleas from Pantex employees and Amarillo business people to expand Pantex activities in any manner. Why not? These employees could not earn comparable wages at any other place, and this was being received to the business community. Great minds produced Atomic energy of which they had no knowledge of its long term effects on human life or the environment. There is a need of nuclear production now and is contaminated - some uninhabitable sacrificial zone of wastelands.	1/08.03.01
My point is many of this United States has been sacrificed to the Nuclear Process. These plants and resources already in use. Make do with what you have. Do not mess up or use up more land or water resources. Pantex plant sits on the Ogallala Aquifer, the only source of water to many people and agricultural areas in a semi arid area of great agricultural production. Nothing should be done to risk contamination to the water or environment of so great an area of God's good earth.	2/09.00.04		
Thank you for your time. Anna Marie Wink, 72 year resident of Caron and Potter Counties			

M-156

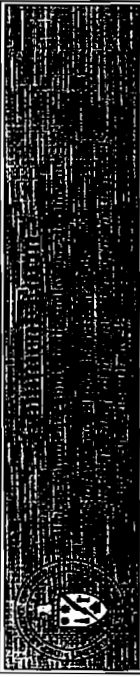
08 03 01 Comment Number 1

Comment noted.

09 00 04 Comment Number 2

Current and future operations at Pantex are not expected to affect the water quality of the Ogallala Aquifer. However, since this aquifer is being depleted (that is, the current withdrawal is exceeding the current recharge), Pantex operations contribute to the depletion of the Ogallala Aquifer and are analyzed in the PEIS. Also, current and future operations at Pantex are not expected to impact the soil used for agriculture and farming in the Pantex region.

WOMBYN
PAGE 1 OF 1

		United States Department of Energy NAME: (Optional) <u>WOMBYN</u> ADDRESS: <u>EARTH</u> TELEPHONE: () _____	
1/08.03.01	I WOULD LIKE TO EXPRESS MY TOTAL DISAGREEMENT TO DISPOSING OF SURPLUS PLUTONIUM OR URANIUM IN ANY DEEP BORE HOLES. DOING ANYTHING OF THE SORT WILL JEOPARDIZE THE FUTURE OF LIFE ON EARTH AS WE KNOW IT. OUR WATER IS PRECIOUS WE CAN ONLY DRINK 1% OF IT NOW. EVEN BURYING THAT WASTE 10 KM DEEP WILL DESTROY OUR WATER AND WITHOUT IT WE WILL ALL DIE. YOU SCIENTISTS CAN MAKE YOUR CALCULATIONS SOUND GOOD BUT IN REALITY IF THESE PLANS TAKE PLACE YOU ARE PUTTING A DEATH SENTENCE TO ALL THE FUTURE GENERATIONS TO COME. YOU CANNOT LIVE WITH THIS HIGH RADIOACTIVITY IT IS NOT IN ITS NATURAL STATE AND ONCE YOU HAVE ALTERED IT YOU CANNOT RETURN IT TO THE NATURAL STATE. IF YOU PEOPLE THINK IT'S SAFE THEN WHY NOT BURY IT UNDER THE COMPANIES + DECISION MAKERS?! INSTEAD, UNRELIABLY IT'S PUT ON NATIVE LAND OR OTHER POOR COMMUNITIES WHERE THEY ARE POWERLESS TO FIGHT BACK AND EASILY SWAYED BY BIG DOLLARS.		
2/09.12.08	IT IS UNSAFE TO MOVE IT YOU DON'T KNOW HOW TO MONITOR IT SAFELY EVERYTHING TRIED SO FAR HAS MELTED OR LEAKED SO LEAVE IT WHERE IT IS AND MONITOR IT STOP PRODUCING NUCLEAR ANYTHING.		
3/01.00.00			
4/14.00.00	ADDITIONAL OPTION: REVERSE IT.		

NV-001

08 03 01 **Comment Number 1**
The Department of Energy recognizes the commentor's concern with the Borehole Alternatives. Decisions on the disposition alternatives will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

09 12 08 **Comment Number 2**
None of the Proposed Alternatives would involve burying nuclear waste on native land or poor communities. All of the storage alternatives are proposed for siting on existing DOE sites and do not involve burial of waste materials. None of the DOE sites have been analyzed as a repository for disposal in this document. If any of the sites were to be used as a repository, further NEPA documentation would be performed, as required.

01 00 00 **Comment Number 3**
Comment noted.

14 00 00 **Comment Number 4**
Comment noted.

**WOMEN STRIKE FOR PEACE, WASHINGTON, DC,
KATHRYN A. CRANDALL
PAGE 1 OF 3**

To: USDOE Office of Fissile Materials

From: Women Strike for Peace

Date: May 7, 1996

RE: Storage and Disposition of Weapons-Usable Fissile Materials Draft
Programmatic Environmental Impact Statement

Women Strike for Peace was founded on Nov. 1, 1961 as a one day strike to protest the arms race. Many of the 100,000 women who came out of their kitchens and left their jobs to strike were concerned about the threat to children's health from Strontium 90 - a radioactive fallout from nuclear weapons' testing. Today, we continue our fight against nuclear, and other, threats to our children, ourselves and future generations.

While it is good news that plutonium is being removed from weapons and the process of disarmament has begun, keeping plutonium out of weapons and the environment is a formidable task. The U.S. should work to meet our obligations under the Nuclear Nonproliferation Treaty by working toward disarmament. This means the plutonium stockpile from dismantled weapons will grow, so we must analyze how to effectively deal with plutonium. Unfortunately, this PUIS so far is an inadequate analysis that does not facilitate informed public participation. Women Strike for Peace is especially concerned that DOE is also considering alternatives, like the use of plutonium in reactors, that exacerbate nuclear proliferation problems.

The Problems With MOX

Plutonium in MOX can still be diverted into nuclear weapons. The International Atomic Energy Association (IAEA) considers MOX to be of "direct use" in nuclear weapons. This means that plutonium in MOX can be transformed much too easily to plutonium in a nuclear warhead. Also, in the storage, transport and use in reactors, MOX must be secured and handled as weapons material.

Using MOX in reactors is against stated U.S. Nonproliferation policy. President Clinton has stated that "The United States does not encourage the civil use of plutonium and, accordingly does not itself engage in plutonium reprocessing for either nuclear power or nuclear explosive purposes." (Sept. 1993) Developing MOX would drastically alter this policy, and encourage other countries to further develop plutonium use in reactors. Already there is a developing international MOX industry, operating land in hand with reprocessing. Before the U.S. jumps into the fray, we ought to consider whether we want increasing use of MOX all over the world, even in countries like North Korea, or Iraq.

The U.S. has no facility to develop a MOX fuel that could be run in a commercial reactor. A MOX fabrication facility would have to be built, or a current facility adapted. The costs of such a facility has not been adequately analyzed and presented to the public. All of the transportation impacts have not been thoroughly considered in the PEIS. Potentially plutonium from around the country, and perhaps other countries, would be brought to a fabrication facility. If multiple reactors, or foreign reactors such as Canada's CANDU were to use MOX, then there is also concern about transport of MOX to those reactors. Also, because there is currently no U.S. MOX fabrication facility, the PEIS assumes that if an existing light water reactor in the U.S. were to use MOX fuel, a "timely supply" of MOX fuel would have to be sought while an U.S. fabrication facility is developed. This means DOE would send U.S. plutonium to Europe where MOX fuel would be developed and then sent back to the U.S. reactors (PEIS Summary pp. 15, 32).

01 06 00

Comment Number 1

The President's Nonproliferation Policy says the United States will not recycle Pu. Burning weapons Pu in reactors does not utilize the recycling process because the Pu in the spent fuel from this process will not be extracted for reuse in new fuel. This is consistent with U.S. policy since no Pu is being recycled. After a once-through fuel cycle, the Pu would be converted to a nonproliferation form as spent reactor fuel.

1/01.06.00

F-036

MOX in commercial reactors is a concern. Because MOX is a direct use weapons grade fuel, its use in commercial reactors would turn many utility nuclear energy plants into de facto weapons facilities. Increased security to prevent diversion of plutonium would be required. High Level Waste generated from MOX is likely to be a serious problem. Commercial Spent Fuel generated from MOX reactors is supposed to go to a waste repository. The Development of a repository has been fraught with difficulty. There is no guarantee that a suitable repository will exist for even more high level waste generated from MOX reactors. Simply stating that it will go to a repository, which does not yet exist, is not good enough. Currently overburdened sites in US DOE's nuclear weapons complex are likely to end up with this waste if a repository is not available. One alternative in the PEIS is to use Canadian CANDU reactors. According to the PEIS, Canada would then be responsible for the waste generated from the reactors. This encourages international commerce in plutonium (as does any alternative calling for plutonium or MOX shipment to and from Europe.) It may also set a dangerous precedent for the U.S. to give up control of weapons material to other countries, and it brings up a question of fairness: Why should Canadian citizens take plutonium and waste that they did not develop?	2/08.03.01	08 03 01 Comment Number 2 The Department of Energy acknowledges the commentor's concern about the disposition of Pu using existing LWRs (commercial). Decisions on the disposition of weapons-usable fissile materials will be based on environmental analyses, technical and economic studies, national policy considerations, and public input.
Instead of MOX, plutonium should be declared a waste and immobilization alternatives developed. We should declare plutonium a waste and ensure that it is not used in weapons, or in reactors. By doing this in the U.S. we can also take a leadership role in preventing an international industry and commerce in plutonium that would be increasingly difficult to control. Immobilization technologies should be vigorously pursued because these technologies provide the greatest ability to isolate plutonium from the environment and prevent proliferation of weapons material. Immobilization technologies should be developed and shared with other countries. Meanwhile, storage of plutonium should maintain plutonium so as to prevent harm to the environment and diversion into weapons. This means that transportation and its risks, especially international transportation, should be avoided.	3/09.11.08	09 11 08 Comment Number 3 The PEIS acknowledges the fact that constructing and operating a MOX fuel fabrication facility would increase the wastes generated at any site selected for analysis. The wastes generated for the MOX fuel fabrication facility are presented in Section E.3.2.3. The impacts associated with operating the MOX fuel fabrication facility are presented in Section 4.3.5.1.10.
Public Participation and Comments in the PEIS Process This PEIS lacks credibility because DOE has not furthered informed public participation in the process. DOE secretly solicited the nuclear industry in pursuit of MOX. In December, 1993, DOE included in a Request For Expressions of Interest for Tritium Production, a solicitation in pursuit of commercial reactors that would like to use MOX. This action, taken between the Plutonium Disposition PEIS Scoping Hearings and the draft PEIS, was done without notice to the public or incorporation into the PEIS. Not until March 29, 1996 were Expressions of Interest (EOIs) released. This solicitation indicates a substantial furtherance of MOX despite the fact that DOE has not chosen a preferred alternative. No EOI process has been followed for any of the other disposition alternatives.	4/01.04.00	01 04 00 Comment Number 4 Comment noted.
DOE is not including cost studies and nonproliferation studies for public scrutiny along with the PEIS. Cost studies and nonproliferation studies are going on outside of this PEIS process. Since these studies will effect the outcome of the PEIS, they must be made publicly available so that citizens can make informed comments on the PEIS. Given that the need for action on plutonium disposition is based upon proliferation concerns (PEIS Summary, S-1 to S-4, and PEIS pp.1-4 to 1-6), there is an appalling lack of consideration of proliferation impacts throughout this PEIS. Full cost analyses of all PEIS alternatives should be done and available for public comment.	5/08.00.00	08 00 00 Comment Number 5 The Preferred Alternative for Pu disposition, as stated in the Final PEIS, includes Reactor Alternatives. Should a Reactor Alternative be selected at the ROD, DOE would issue a Request for Proposal to interested parties to solicit MOX fuel fabrication facility design and construction proposals.
DOE should extend the comment period and hold hearings in additional locations. Additional time is needed for the public to fully consider the PEIS, especially with additional cost and nonproliferation information.	6/08.00.00	08 00 00 Comment Number 6 In the interest of openness and more informed decisionmaking, DOE released Technical Summary Reports to the public as soon as they became available. Cost data, along with technical and schedule data, were provided in Technical Summary Reports of both storage and disposition in the summer of 1996. Results of the nonproliferation analysis were made available in the fall of 1996. Each of these analyses, along with the environmental analysis and public input, will be integrated into DOE's decisionmaking process.
F-036	7/08.01.00	

**WOMEN STRIKE FOR PEACE, WASHINGTON, DC,
KATHRYN A. CRANDALL
PAGE 3 OF 3**

Hearings ought to be held in additional locations. For example actions at Hanford should require hearings throughout the Northwest (Seattle, Portland, Spokane etc.) Now that some of the potential reactor sites for MOX are known, hearings in those areas should be considered.

These comments were prepared by: Kathryn A. Crandall, J.D.
for
Women Strike for Peace
110 Maryland Ave. NE #102
Washington D.C. 20002
(202) 543-2660

Please inform Women Strike for Peace of any extension in the comment period.

8/08.02.00

08 01 00	Comment Number 7
At the request of several organizations and individuals, the public comment period was extended to a total of 92 days.	
08 02 00	Comment Number 8
To obtain public comments on the Draft PEIS, DOE held meetings near each of the potentially affected sites and a national meeting in Washington, DC. DOE also participated in meetings, open to the public, sponsored by different organizations at which the sponsor collected public comments which were forwarded to DOE. DOE created and advertised a number of methods for submitting comments for members of the public who could not attend a public meeting. These methods included fax, oral comments using a toll-free telephone number, mail, and the Internet.	

F-036

WOOD, M. R., SEATTLE, WA
PAGE 1 OF 2

Storage and Disposition of Weapons-Usable Fissile Materials Draft Programmatic
Environmental Impact Statement (PEIS) Public Comment Form

Name (optional): M R Wood
Address (optional): 608 W Mercer Place
Seattle 98119

Please write down your comments and drop this form in the marked boxes before you leave tonight. These forms will be submitted to the Department of Energy as part of the formal comment on this PEIS. If you are unable to complete this form tonight, written comments can be mailed to:

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

or, you can call this toll-free number to leave comments by phone: 1-800-820-5156. Comments must be submitted by May 7, 1996.

The Department of Energy has identified three types of technologies as options for disposing of weapons-usable fissile materials. The Department has also considered a "no action alternative" which would result in long-term storage of these materials. Please write down your comments on the following three types of options for disposal and the storage option.

1. Materials Immobilization/Vitrification - Immobilize fissile materials by mixing them with glass, banded zeolites, or ceramics.

It seems to me more readily recoverable in the summer than during winter.

1/08.03.01

2. Deep borehole disposal - Materials would be disposed in boreholes at least 2.5 miles deep, in geologically stable formations. Materials could be disposed directly into the deep borehole, or materials could be immobilized first, and then deposited into the deep borehole.

Extremely necessary

3. Reactor Options - Surplus plutonium/highly enriched uranium would be made into MOX fuel for use in nuclear reactors, destroying by fission a major portion of the weapons grade materials.

This seems to me to be the best. The evidence is overwhelming that the very problems we had during the development and use of the bomb are the same problems we are having out of oil and natural gas in a few decades, only during the time of living children.

2/08.03.01

4. Storage Options - USDOE would continue existing storage practices for weapons-usable fissile materials at current locations and/or consolidate that storage at one or more of the designated sites.

This is the dangerous one long period, how long?

3/08.03.01

M-225

Comment Number 1

08 03 01

The Department of Energy acknowledges the commentor's support for the Vitrification Alternative. Decisions on disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

Comment Number 2

08 03 01

The Department of Energy acknowledges the commentor's support for the Reactor Alternative using MOX fuel. Decisions on disposition of weapons-usable fissile materials will be based on environmental analyses, technical and economic studies, national policy considerations, and public input.

Comment Number 3

08 03 01

The Department of Energy acknowledges the commentor's opposition to long-term storage. Decisions on storage of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

Please use this space to write down any additional comments on the Storage and Disposition of Weapons-Usable Fissile Materials Draft Programmatic Environmental Impact Statement.

Use it, burn it, save oil and gas while we still have time to save.

4/08.03.01

08 03 01 Comment Number 4

The Department of Energy acknowledges the commentor's support for Pu disposition in reactors. Decisions on disposition will be made based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

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5904 River Road Bethesda, MD 20816 Victor V. YEVSNIKOV, Ph.D., Nikita I. Wells, N.E. Phone: 202-344-5041 FAX: 301-310-9622		
Mr. J. David Nulton Director Office of NEPA Compliance and Outreach Office of Fissile Material Disposition U.S. Department of Energy 1000 Independence Ave., SW Washington, D.C. 20585		
Re: Plutonium Conversion Project Dear Mr. Nulton, As you well know, ever larger quantities of plutonium are being accumulated in Russia from the dismantling of nuclear weapons. Problems of plutonium storage arouse great concern all over the world. Scientists are expressing extreme concern about the undesirable and deplorable state of storage and accountability of fissionable materials as well as the poor security of nuclear facilities in Russia. It is very likely that terrorists, local thieves, or hostile nationalists may succeed in well organized thefts of plutonium of sufficient quantity to manufacture a nuclear bomb.		1/01.00.00
The unstable political situation in Russia may allow extremist political figures to receive access to fissionable materials. The poor economic situation of the country could force these politicians to sell the nuclear materials to third-world countries, regardless of international agreements. To prevent theft and sales of weapons-grade plutonium (WGP) it is necessary to transfer it, at the earliest possible time, into a form unsuitable for the manufacture of nuclear weapons, and reprocessing of which back into WGP would be extremely difficult.		2/13.00.00
In light of the above, it is very timely to consider the Russian process of converting WGP into mixed mononitrides (MMN). The exploitation of this process is fully supported by Victor Mikhailov, the Minister of the Russian Federation on Atomic Energy (MinAtom). The ease, safety, cleanliness of the conversion process, the benefit of long term storage, together with the overwhelming advantages of MMN over MOX are strong arguments in favor of mononitrides. Especially, we want to stress, that it is very hard to reconver from MMN back to plutonium metal.		3/14.00.00
The last few months have turned up a number of questions and respective alternative solutions on possible WGP disposition considerations both in the U.S. and Russia, as well as it applies to global involvement. As far as we can see, no clear cut solutions on this problem have yet been obtained.		
The MMN option should be considered as an alternative to the generally accepted process of WGP conversion to oxides. MMN is not to be used as a fuel in water cooled reactors, since, at temperatures greater than 300° C. MMN begins to react with the water to produce hydroxides, which are soluble in water. In the case a fuel rod		3/14.00.00 cont.

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01 00 00 Comment Number 1

Comment noted. An intent of DOE's Proposed Action is to serve as an example for Russia and other nations on how to conduct Pu disposition in a safe, secure, and timely manner. The United States currently is engaged in a joint study with the Russians to assess the technical feasibilities of the reasonable alternatives for Pu disposition, and is planning for a joint demonstration of some of the disposition technologies to remove uncertainties in viability.

13 00 00 Comment Number 2

The Department of Energy agrees. This is the purpose of DOE's Proposed Action.

14 00 00 Comment Number 3

During the screening process to select reasonable alternatives for evaluation in the PEIS, several Advanced Reactor Options, including mononitride reactors, were considered. However, because the technology of the mononitride reactors needs further development which would involve time and cost, this option was considered less reasonable than other reactor options using existing or more mature technologies.

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refuse fuel hydrazides will appear in the cooling water. One has to remember that the MMN option is specifically suited to convert Russian WGP to a safe form for interim storage or for ready made fuel (in the form of pellets) to be utilized in future generation reactors. MMN storage is superior to MOX both in time (MOX starts to deteriorate before 10 years) and in its physical/chemical/radiation storage properties.

The U.S. should consider picking up this Russian technology as an alternative, limited to the interim storage and conversion of MMN to MOX at a required time for utilization as fuel. It is important to consider the overall affordability of this project.

We propose that a feasibility study on the above stated process should be carried out including an in depth comparison of the pros and cons of MMN versus MOX, investigations on the chemistry of the processes, storage, safety, economics, ecological consideration, etc. Our suggestion is, therefore, to convert the plutonium to MMN for interim storage till the required time for conversion into MOX (and subsequent utilization as fuel in water cooled reactors). The first phase involves only a paper study and an overview of the process. The second phase carries out tests on the existing pilot plant (10 kg Pu per day capacity) which is to be relocated at the Mayak facilities.

We are looking forward to future discussions on this project, including the feasibility study mentioned above, and any appropriate financial support that may be required.

Yours very truly,

Victor Yevnikov
Victor Yevnikov

Nikita Wells
Nikita Wells

3/14.00.00
cont.

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PROCESSING AND STORAGE OF WEAPONS-GRADE PLUTONIUM.

Introduction

At present there are large quantities of plutonium from the dismantling of nuclear weapons. Russia is presently known to have more than 180 metric tons and will have 200 tons by the year 2000. As a comparison, one needs to have only 4.7 kilograms of weapons-grade plutonium (WGP) in order to attain the critical mass for a nuclear bomb (250 cm³ in volume). Problems of plutonium storage arouse great concern all over the world. Both Russian and American scientists as well as government officials are expressing their extreme distress about the unreliable and deplorable state of storage and accountability of nuclear fissionable materials as well as the poor security of nuclear facilities in Russia. It is very likely that terrorists, local thieves as well as Chechen (or other) nationalists may succeed in well organized thefts of metallic plutonium of sufficient quantity to manufacture a nuclear bomb. In addition, the political situation in Russia is unstable, where certain extremist political figures could come to power and receive access to fissionable materials. The poor economic situation of the country could force the extremist to sell the nuclear materials to third-world countries, regardless of international agreements.

To prevent theft and sales of WGP it is necessary to transfer it at the earliest possible time into a form unsuitable for the manufacture of nuclear weapons, and reprocessing of which back into WGP would be extremely difficult.

We propose to investigate a unique process for the conversion of Russian WGP to a secure and stable form. This process (as fully supported by MinAtom's Minister Mikhailov) would convert WGP into a plutonium-uranium (or plutonium-mixed oxide) mixture: mixed monoxide (MOX), which can be pressed into pellets for fuel elements (for use in light water reactors) and triplices for easy long term storage. It is estimated that the MOX can be stored for at least 30 years. Russian scientists have firm experience of MOX storage for 30 years. As a comparison, MOX can be stored for 10 years without degradation. This interim span of 30 years would provide ample time to come up with new, appropriate, well thought out policies in the future processing, storage, and use of WGP.

Disposition Alternatives.

Several disposition alternatives for WGP are now being considered both in the U.S. and Russia. These include disposal in geological formations (deep borehole), immobilization including vitrification, ceramic immobilization, burn-out in different types of reactors for the generation of electrical power, and interim or long term storage.

The vitrification and disposal of WGP in geological formations options, however, are not acceptable for Russia. Russia has decided to use WGP as fuel for the generation of electricity.

This brings out a number of important problems which need immediate clarification. First, the presence of the large amount of Russian WGP presents a threat and must be converted to a benign form unsuitable for weapons. It must be placed into interim storage for future use as fuel since facilities for plutonium burn up are not yet operational. This storage has to be in an acceptable, benign form to meet non-proliferation and safety standards. Secondly, the Russians have no commercial water cooled reactors which can utilize of WGP in the form of MOX. MOX is a suitable fuel

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for water cooled reactors as considered in the U.S., but cannot be used in existing Russian LWRs without considerable facility upgrade. The operational liquid metal cooled reactor (BN-600) can utilize WGP as mixed mononitride fuel, but cannot use MOX due to safety considerations (since MOX can react with the liquid metal coolant in the case of accidental fuel element damage). Construction of the advanced design BN-800 reactors, which will be perfect for MMN use, unfortunately has been stopped due to financial problems. High temperature gas cooled reactors which can use both MOX as well as MMN, are only in the design stage (MiraAtom and General Atomics joint project).

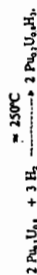
To summarize: Russian WGP should be stored in a safe form for up to 50 years in order to allow time for the design and construction of facilities for plutonium fuel production and utilization. Thus, if the storage time is up to 10 years, WGP can be stored in an oxide form to produce MOX fuel. But if the required storage time is up to 50 years, WGP should be stored in a MMN form which can be burned directly as fuel in advanced reactors or converted to other forms of fuel at the appropriate time.

Technology of Process

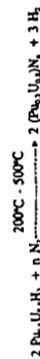
This process was developed initially in the Soviet Union in the beginning 1970's (no parallel developments were carried out in the US since there was no need to reprocess spent nuclear fuel). Since 1970's the process has been improved, simplified, made safe and efficient, cost and energy effective. The process has only recently been declared (approximately 3 years) and now presents us with a unique opportunity to examine the advantages provided by the mononitrides for the easy handling, long term storage and use as a fuel in future generation reactors.

The manufacture of MMN is a continuous, ongoing process with its inherent multiple stages operating simultaneously. In the first stage of the process the weapon-grade plutonium is melted down with depleted uranium-238. The critical mass increase is made possible with the consumption of plutonium from 15 to 30%. Immediately the plutonium is transformed into a state with a high critical mass which allows the safe operation of the process. MOX preparation technology does not allow the fuel increase in critical mass in the initial stage. WGP does not need purification to remove alloying materials or long-life radioactive elements (including Am).

The second stage of the process performs hydrometallurgical of the mixed Pu and U with an argon-hydrogen gas mixture at a temperature of 250°C. The reaction starts instantaneously and provides complete destruction of the metal structure. A black powder is obtained with particles from 0.3-0.6 micron. This stage can be written as follows:



The third stage provides nitration. The product is carried by a feeder through a furnace for the nitration by a nitrogen-argon gas mixture. As a result MMN is produced in a form of powder with a controlled dispersion. The size of the particles depends upon the temperature and can be produced up to 500 micron. The nitration process can be written as:



The fourth stage is briquetting or pelleting. The powder of the mixed nitride is pressed with the help of a fast acting press, burned and sintered in a nitrogen environment at the temperature of about 700 and 1400-1600°C correspondingly. The briquettes obtained are ready for storage. The maximum weight of the briquette is determined by the critical mass. In the opinion of the Russian, the most convenient storage shapes are cylinders with the mass of 30-40 kg with a high content of Pu mass. From 25-27% more plutonium is contained in MMN than in MOX.

The fifth stage is the loading of the manufactured products into the containers, their sealing, seal inspection and shipment to the storage facility for long term storage. If necessary porous membranes can be installed in the container to release helium.

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Radiating Facilities

The Russian presently have 3 operating test facilities and one high capacity pilot plant for the conversion of plutonium to MMN. The test facilities can process from 0.2 kg to several kilograms capacity. The pilot plant has a capacity of 10 kg Pu per day (3.2 tons plutonium per year). Ideally only 1 year is required to convert all the Russian WGP into storage form utilizing just 30 of these pilot plants. Total cost is about 10 million dollars. But, more realistically, and economically feasible, 10 plants can do the job in three years. About a half-year is required for the manufacture of the first plant. The series production of the 30 plants requires about 2 years.

The pilot plant consists of 15 interconnected glove boxes containing ovens, furnaces, presses, spiral conveyors, filter systems, etc. and sophisticated instrumentation (mass spectrometers, gas analyzers, vacuum and radiation monitoring, etc.). The total cost of the pilot plant is estimated conservatively at \$ 300 K. The area that is occupied by the entire system is about 2,700 sq. feet (300 sq. m). The facilities of this class can be produced out of standard parts with the standard equipment by an ordinary machine fabrication plant. Russians have design documentation and production equipment. All of the processing equipment can be easily transported and can be delivered directly to the weapon dismantling site.

The pilot plant is movable, requires only 2 trucks, and may be transported and installed at the weapon-grade plutonium storage site. The containers with MMN can be stored on the same storage site.

Ecological Aspects of the Process

The processing procedure, compared to hydro-metallurgical and other techniques, is ecologically friendly. There are no liquid or gaseous wastes. Since the velocity of the working gases is low, radioactive wastes in the form of finely dispersed dust are easily captured by standard filters and then reprocessed and returned into the cycle. The Russians can produce MMN powder with particle size up to 500 mkm, which excludes dust formation that accompanies the oxides production process. It is very important that the gas cycle is closed. All the gases used (H_2 , N_2 and Ar) are subjected to complete purification and returned into the process.

MMN Storage Advantages.

WGP storage in MMN form meets all the Russian requirements for storage with specific advantages as listed below:

- The reverse process of Pu extraction from the MMN form is much more complicated than from MOX. MMN goes through several additional stages as compared to MOX. Each stage contains liquid radioactive wastes. All long-life radioactive isotopes from the MMN crystalline structure are transferred to the reaction volume when MMN is dissolved. A direct MMN reduction process into metal Pu is unknown, but oxides can be reduced directly by Ca metal.
- Direct production of weapons (or a bomb) is impossible due to the high critical mass of more than 120 kilograms with respect to the limits of bomb parameters.
- MMN provides reliable long-term storage (longer than 50 years).
- MMN may directly be used as a fuel for fast-neutron commercial reactors after storage with no further reprocessing. Fission products are not released during the fuel production process (milling, pressing and sintering) and remain in the MMN crystalline lattice.
- MMN fuel as pellets can be stored inside the fuel elements. The Russians have 8 years experience in this process.
- MMN storage is safe and well understood by the Russians who possess 30 years experience.
- MMN has stable chemical and physical properties, thus making storage safer compared to that of MOX.
- MMN has a high thermal conductivity. MMN contains about 27% more plutonium than that in MOX. Contact with water at temperature up to 200°C produces a dense protective oxide film.
- MMN is characterized by good radiation stability.
 - MMN releases of several tens of times less cesium and iodine as compared to MOX.
 - MMN captures fission products by a factor of 4-5 times greater than MOX.
 - α -radiation does not damage the MMN lattice, and Am, Np, Cm remain in the crystalline lattice.

Utilization of MMN as Nuclear Fuel after Storage.

MOX fuel may be successfully used in water-cooled reactors. The use of MOX in liquid metal cooled reactors is prohibited because it reacts with the metal coolant. Alternatively, MMN should not be used with LWR, but is excellent fuel for liquid metal reactors. MMN possesses a series of properties that are superior to that of MOX as shown below. This makes its use as fuel highly desirable.

- MMN is very compact with a high plutonium content. It contains more plutonium than MOX and can provide 25% more Pu burn-out.
- The use of Pu-239 in MMN fuel in fast reactors provides up to 50% burning of Pu in the fuel.
- The storage area for MMN containers or fuel assemblies are about 25% smaller than that for MOX - this is economically favorable.
- MMN has higher thermal conductivity, which increases with temperature. It is 10 to 18 times greater than that of MOX. This makes the process efficient and safe.
- MMN is chemically stable, does not require metal coolant and stainless steel at high temperatures.
- MOX releases fission products, mainly Cs, which interact with stainless steel of the fuel elements.
- MMN has minimal gas release during fuel reprocessing - several times less than that of MOX.
- New design of reactors with MMN fuel prohibits the reproduction of Pu.
- After storage MMN can be used directly for metal-cooled reactors, as well as for reactor-burners, gas-cooled reactors, etc., without any further reprocessing.
- Actinides and fission products formed during storage are trapped in the MMN crystalline lattice and can be burned together with MMN fuel in fast reactors.

Conclusions.

Based on the facts and analyses as presented above, the Russian conversion process of WGP into MMN demonstrates its critical position in the international WGP non-proliferation areas. The international nuclear power community should seriously consider MMN's merits and advantages as an alternative form to be considered for interim and long term storage and future use as a nuclear fuel (especially for the consideration of WGP in Russia).

The above stated conclusion makes sense when one considers the following facts:

- No political decision concerning methods of plutonium management has yet been made either in U.S. or Russia.
- At present Russia has no facilities for utilizing WGP.
- The above process provides a possibility to solve the problem of safe and low-cost storage of WGP in compact form. Only MMN meets the requirements of long-term storage and subsequent WGP utilization.
- MMN production is highly efficient, safe, ecologically clean and economically advantageous.
- MMN storage is inexpensive, safe, long-term and ecologically clean.
- After storage MMN can be used directly as fuel or converted into any other types of fuel including MOX.
- During storage long-lived isotopes (including Am, Np, Cm) are formed in the MMN, but remain inside the crystalline lattice to be burned up together with the Pu in reactors.
- Although further investments are needed for completion of the Russian plutonium conversion facilities, the MMN option will provide the most economical solution.

PROPOSED TASKS

Conversion of weapon-grade plutonium to mixed mono-nitrides (MMN)

Stage 1. Feasibility Study

- Task 1: Data Collection

Assemble detailed technical data on the plutonium conversion into mixed mono-nitrides (MMN), details of the process, MMN interim and long term storage, including full documentation of the of existing and proposed facilities. This information will be obtained from existing data sources and through the on-site interviews with system developers.

- Task 2: Technical Review

The analyses and technical review of the plutonium nitride conversion: viability of the conversion process; focusing on the details of the formation MMN, material handling, interim and long term storage. Additional consideration will include facilities safety and environmental considerations. A determination of a cost estimate will be included.

- Task 3: Generation of Report

Preparation of a final report that will contain analysis, results, assessments and recommendations for each of the tasks performed under this project. Independent experts (National Laboratories, Universities, etc.) will be consulted as required.

Stage 2. Practical Implementation

- Task 1: Consolidation, Verification, Examination of Available Equipment and Instrumentation
- Task 2: Transport of Equipment and Instrumentation to the "MAYAK" Facility.
- Task 3: Installation of Equipment and Instrumentation at "MAYAK". Implementation of any Additional Requirements.
- Task 4: On site Equipment Testing Using Depleted Uranium.
- Task 5: Test Run Using Plutonium.
- Task 6: Optimization and Fine Tune of process.
- Task 7: Full Operation of System at Maximum Capacity (10 kg Pu/day).

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