AR TARGET SHEET

The following document was too large to scan as one unit, therefore, it has been broken down into sections.

EDMC#: 0000003
SECTION: 9 OF 11

DOCUMENT #: DOE/EIS-0113

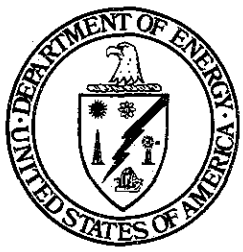
TITLE: Final EIS Disposal of Hanford Defense High-Level, Transuranic and Tank Wastes

DOE/EIS-0113 (VOL. 5 of 5)
PUBLIC COMMENTS

FINAL ENVIRONMENTAL IMPACT STATEMENT

DISPOSAL OF HANFORD DEFENSE HIGH-LEVEL, TRANSURANIC AND TANK WASTES

Hanford Site
Richland, Washington



DECEMBER 1987

U.S. DEPARTMENT OF ENERGY
ASSISTANT SECRETARY FOR DEFENSE PROGRAMS
WASHINGTON, D.C. 20545

COVER SHEET

RESPONSIBLE AGENCY: U.S. Department of Energy

TITLE: Final Environmental Impact Statement, Disposal of Hanford Defense High-Level, Transuranic and Tank Wastes, Hanford Site, Richland, Washington

CONTACTS: Additional copies or information concerning this statement can be obtained from: Mr. Tom Bauman, Communications Division, U.S. Department of Energy, Richland Operations Office, Richland, WA 99352. Telephone: (509) 376-7378.

For general information on DOE's EIS process contact: Office of the Assistant Secretary for Environment, Safety and Health, U.S. Department of Energy, ATTN: Carol M. Borgstrom, Forrestal Building, 1000 Independence Avenue, S.W., Washington, D.C. 20585. Telephone: (202) 586-4600.

ABSTRACT: The purpose of this Environmental Impact Statement (EIS) is to provide environmental input into the selection and implementation of final disposal actions for high-level, transuranic and tank wastes located at the Hanford Site, Richland, Washington, and into the construction, operation and decommissioning of waste treatment facilities that may be required in implementing waste disposal alternatives. Specifically evaluated are a Hanford Waste Vitrification Plant, Transportable Grout Facility, and a Waste Receiving and Packaging Facility. Also an evaluation is presented to assist in determining whether any additional action should be taken in terms of long-term environmental protection for waste that was disposed of at Hanford prior to 1970 as low-level waste (before the transuranic waste category was established by the Atomic Energy Commission but which might fall into that category if generated today).

The following alternatives are considered in this EIS: 1) in-place stabilization and disposal, where waste is left in place but is isolated by protective and natural barriers; 2) geologic disposal, where most of the waste (by activity and to the extent practicable) is exhumed, treated, segregated, packaged and disposed of in a deep geologic repository; waste classified as high-level would be disposed of in a commercial repository developed pursuant to the Nuclear Waste Policy Act; transuranic waste would be disposed of in the Waste Isolation Pilot Plant near Carlsbad, New Mexico; 3) a reference alternative, where some classes of waste are disposed of in geologic repositories and other classes of waste are disposed of by in-place stabilization and disposal; 4) the preferred alternative, in which double-shell tank wastes, strontium and cesium capsules, and retrievably stored TRU wastes are disposed of according to the reference alternative, and in which decisions are deferred on disposal of single-shell tank wastes and on further remedial action for TRU-contaminated soil sites and pre-1970 buried suspect TRU-contaminated solid wastes (except the 618-11 site) until additional information is obtained on waste characterization, retrieval methods, and performance of near-surface disposal systems; and 5) a no disposal action alternative (continued storage).

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FOREWORD

This environmental impact statement (EIS) provides analyses of environmental impacts for the selection and implementation of final disposal strategies for the high-level (HLW), transuranic (TRU) and tank wastes generated during national defense activities and stored at the Hanford Site near Richland, Washington. Also an evaluation is presented to assist in determining whether any additional action should be taken in terms of long-term environmental protection for waste that was disposed of at Hanford prior to 1970 as low-level waste (before the transuranic waste category was established by the Atomic Energy Commission (AEC) but which might fall into that category if generated today). This document also addresses environmental impacts associated with the construction, operation and decommissioning of waste treatment facilities that may be required to implement the waste disposal alternatives.

Several previous documents have addressed environmental aspects of the management of defense waste at the Hanford Site. The first comprehensive one, The Final Environmental Statement for Hanford Waste Management Operations (ERDA-1538), was issued in 1975. In that statement, waste management practices at Hanford were shown to protect the public health and safety and the environment on an interim basis. Those practices, however, were not and are not intended as final solutions for long-term isolation and disposal of high-level, TRU and tank wastes.

In 1977, the Energy Research and Development Administration (ERDA) issued the report Alternatives for Long-Term Management of Defense High-Level Radioactive Waste (ERDA-77-44), which included preliminary cost estimates and analyses of near-term risks associated with alternatives considered. That document examined 27 variations on four options for the processing and disposal of Hanford HLW, encompassing numerous final waste forms and storage and disposal modes.

In 1978, the National Research Council of the National Academies of Science and Engineering issued a report entitled Radioactive Wastes at the Hanford Reservation: A Technical Review, concluding that there has not been in the past, and is not at the present, any significant radiation hazard to public health and safety from waste management operations at Hanford. The Council recommended that long-term isolation and disposal of Hanford high-level waste become the main focus of waste management research and development.

The need to include retrievably stored TRU waste within the scope of wastes to be disposed of, and concerns about potential environmental impacts of wastes disposed of before 1970 as low-level wastes (before the Atomic Energy Commission established the TRU waste category but which might be classed as TRU if generated today), led to enlarging the earlier plan that was to issue an EIS covering high-level waste only. Accordingly, on April 1, 1983, the Department of Energy (DOE) published in the Federal Register (48 FR 14029) a Notice of Intent (NOI) to prepare an EIS on Disposal of Radioactive Defense High-Level and Transuranic Wastes at Hanford.

Eighteen comment letters were received in response to the Notice of Intent to prepare this EIS. Ten of the letters only requested copies of the draft EIS when issued; eight

contained comments regarding its preparation. The draft EIS was published during March 1986, and its availability was published in the Federal Register on April 11 (51 FR 12547). During the 120-day agency and public comment period on the draft EIS, which began on April 11, 1986, 243 letters were received that provided about 2000 substantive comments on the draft EIS. In addition, oral testimony was heard on the draft EIS in public hearings held during July 1986, in Richland, Washington; Portland, Oregon; Seattle, Washington; and Spokane, Washington.

Excluded from consideration in this EIS are low-level radioactive wastes in liquid and solid disposal sites at Hanford (see ERDA 1538). These waste sites are presently being reviewed under hazardous-waste regulations. Also excluded are wastes generated by decontamination and decommissioning of surplus or retired facilities after the year 1983 (other than for those facilities directly associated with waste disposal). Those operations will be the subject of other National Environmental Policy Act (NEPA) reviews.

The Defense Waste Management Plan (DOE/DP 0015) states of the Hanford wastes: "Immobilization of new and readily retrievable high-level waste will begin about 1990 after sufficient experience is available from Savannah River's vitrification process. Other waste will be stabilized in place in the 1985-2015 time frame if, after the requisite environmental documentation, it is determined that the short-term risks and costs of retrieval and transportation outweigh the environmental benefits of disposal in a geologic mined repository."

It is necessary to understand the major differences between civilian and defense wastes and the programs to effect their disposal. Both types of waste include fission products and transuranic waste elements. On the other hand, the quantities of these elements, the physical and chemical forms of the wastes, and the technically sound alternatives for their disposal are markedly different. In all cases, for both civilian and defense, the final methods selected will have to meet the Environmental Protection Agency (EPA) standards (40 CFR 191) for the disposal of spent fuel and high-level and TRU wastes. The Nuclear Waste Policy Act of 1982 mandates a procedure to select the potential repository sites for detailed characterization.

A comparison of the Hanford waste inventory resulting from chemical processing of about 100,000 metric tons of nuclear reactor fuel with that of a commercial repository containing 70,000 metric tons of spent fuel elements is enlightening. In this comparison, the waste inventory from 100,000 metric tons of Hanford reactor fuel contains about 4% as much of the readily transportable (geohydrologically) isotopes ^{14}C, ^{99}Tc, and ^{129}I as is contained in 70,000 metric tons of commercial spent fuel. It contains only 1% as much ^{90}Sr and ^{137}Cs and about 0.1% as much of the primary transuranics ^{239}Pu, ^{240}Pu, and ^{241}Am. The volume of the Hanford wastes is markedly larger than the civilian wastes cited above--410,000 m^3 of Hanford wastes as compared to 29,000 m^3 of commercial spent fuel.

The physical and chemical characteristics of existing and potential waste forms considered in this EIS are highly diverse: liquid waste in double-shell tanks, vitrified/canistered wastes (from processed double-shell tank wastes); sludge and salts in the single-shell tanks; strontium and cesium capsules that are further protected with a

Environmental considerations regarding disposal of Hanford's retrievably stored TRU waste at the Waste Isolation Pilot Plant (WIPP) (except for retrieval, processing, packaging, certification and transportation of waste from Hanford to WIPP, which are discussed in this EIS) are based on the Final Environmental Impact Statement--Waste Isolation Pilot Plant (DOE/EIS-0026). Environmental considerations associated with waste disposal in geologic repositories are based on information from the Final Environmental Impact Statement--Management of Commercially Generated Radioactive Waste (DOE/EIS-0046F). Alternatives to disposal of high-level waste in geologic repositories were described in that document.

Environmental considerations associated with borosilicate glass as a waste form for repository disposal of waste and with the construction and operation of a plant to provide vitrified waste are based in part on information developed in three previous DOE documents: Final Environmental Impact Statement--Defense Waste Processing Facility Savannah River Plant, Aiken, South Carolina (DOE/EIS-0082); Environmental Assessment--Waste Form Selection for SRP High-Level Waste (DOE/EA-0179); and Analyses of the Terminal Waste Form Selection for the West Valley Demonstration Project (WVDP-100 DOE).

The EIS has been structured to conform as closely as possible to the format described in CEQ Regulation 40 CFR Parts 1502.1 through 1502.18. To provide more information for the reader than can be reported within the text of Volume 1, more detailed information is included in 22 appendices (Volumes 2 and 3). Figure 1 in the Introduction to the Appendices (Volume 2, p. xxiv) shows the purpose of each appendix and how appendices relate to each other and to the text of Volume 1. Lines in the margins of Volumes 1, 2 and 3 indicate the areas where revisions were made. Volume 4 contains agency and public comments received and responses to them as well as the indication of location where revisions were made to the draft EIS. Volume 5 contains a reproduction of all of the comment letters received.

The final EIS is being transmitted to commenting agencies, made available to members of the public, and filed with the EPA. The EPA will publish a notice in the Federal Register indicating that the DOE has filed the final EIS. A DOE decision on proposed actions will not be made earlier than 30 days after the EPA has published the Federal Register notice for the final EIS. The DOE will record its decision in a publicly available Record of Decision (ROD) document published in the Federal Register.

handling container; previously disposed of pre-1970 wastes in various forms and containers; and finally, low-level waste products, from the processing of double-shell-tank waste, in the form of grout.

In accordance with the requirements of NEPA, as amended, and implementing regulations of the Council on Environmental Quality (CEQ) published in the Code of Federal Regulations as 40 CFR 1500, this EIS was written early in the decision-making process to ensure that environmental values and alternatives are fully considered before any decisions are made that might lead to adverse environmental impacts or limit the choice of reasonable alternatives. This process will also help ensure that the public is fully informed and is involved in the decision-making process.

To comply with the NEPA's requirement for early preparation of environmental documentation, this EIS has been prepared early in the disposal decision process. As with any major action, it is expected that once a disposal decision is made, subsequent detailed engineering may enhance specific waste retrieval, treatment, handling, immobilization and/or disposal processes evaluated in the EIS. However, the processes evaluated in this document have been chosen such that, when finally implemented for any of the options, the processes would not be expected to result in environmental impacts that significantly exceed those described here. The DOE believes that bounding analyses performed in this EIS meet the requirements of CEQ regulations for analysis of all reasonably forseeable significant adverse impacts.

Implementation of defense waste disposal under the alternatives described in this EIS will be done in compliance with the letter and spirit of applicable federal and state environmental statutes, regulations and standards. To ensure that impacts of specific processes used during disposal implementation do not differ significantly from the results of the analyses set forth in this document, DOE will conduct environmental reviews of the specific processes as finally proposed. On the basis of these reviews, DOE will determine in accord with agency guidelines what additional NEPA documentation is required. The DOE anticipates that a supplemental EIS will be prepared prior to a decision on a disposal option for single-shell tank waste.

This document is not intended to provide the environmental input necessary for siting or constructing a geologic repository. For analysis of environmental impacts of alternatives involving geologic disposal, generic designs for either an offsite or onsite repository were used. Detailed environmental documentation required by the Nuclear Waste Policy Act of 1982 will be prepared before a geologic repository is sited, constructed and operated. A future EIS to address site selection is expected to include a discussion of cumulative impacts of the repository program at all candidate sites, including Hanford.

Other NEPA documentation relevant to this EIS includes the supplement to ERDA-1538, Double-Shell Tanks for Defense High-Level Radioactive Waste Storage at the Hanford Site (DOE/EIS-0063), and the Final Environmental Impact Statement--Operation of PUREX and Uranium Oxide Plant Facilities (DOE/EIS-0089). (The draft PUREX EIS with an addendum constituted the final PUREX EIS.)

CONTENTS

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1.0 INTRODUCTION

This volume has been prepared in compliance with Council of Environmental Quality (CEQ) regulations that provide for the consideration of comments received during the agency and public comment period (40 CFR 1503.4 and 1506.6). This volume contains copies of the 243 letters sent to the Department of Energy (DOE) by state and federal agencies, interested groups, and individuals during the 120-day public comment period in 1986.

Notice of availability of the draft Environmental Impact Statement for Disposal of Hanford Defense High-Level, Transuranic and Tank Waste, hereafter referred to as the draft EIS, appeared in the Federal Register on April 11, 1986. The Federal Register notice invited comment on the draft EIS within the 120-day comment period which began April 11, 1986, and ended August 9, 1986.

Over 1,600 copies of the draft EIS were distributed to individuals and groups including reviewers of the April 1, 1983, Notice of Intent; state and federal agencies; legislators; public libraries and the media. In addition, over 6,000 summaries of the draft EIS were distributed throughout the Northwest.

1.1 PROCESSING OF WRITTEN COMMENTS

At the beginning of the public comment period, a process was established to receive, document, and prepare responses to written public comments. Each letter, upon receipt, was assigned an identification number (the large bold number stamped in the upper righthand corner of each letter facsimile page in this volume).

The letters were reviewed and specific comments within each letter were identified. Each comment was assigned a number according to topic. Over 100 topics, which addressed DOE policy, technical and editorial issues, were identified and compiled into 10 major groups, as organized in Volume 4 under the following headings:

1. Civilian repository
2. Defense waste program
3. EIS scope and preparation
4. Applicable laws and regulations
5. Data base and facilities
6. Affected environment
7. Disposal alternatives and technologies
8. Short-term impacts
9. Long-term impacts
10. Organization and presentation.

Some of the letters focused on one topic and contained only one or two comments. Other letters, however, addressed a broad range of issues. Frequently, a particular issue was raised in a number of different letters. In these instances a single paraphrased comment was developed to represent the common concern of these letters and a single response was provided in Volume 4.

Figure 1 shows how the comments were handled from receipt to inclusion in the final EIS Volumes 1, 2, 3, and 4.

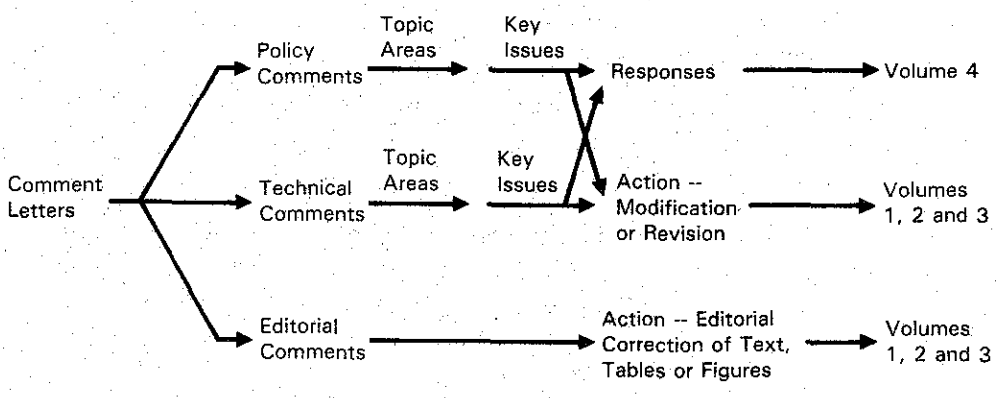

FIGURE 1. Flow Diagram for Treatment of Public Comment Letters

1.2 FINDING RESPONSES TO COMMENTS

All 243 comment letters were photostatically reduced and reproduced as received and are included in this volume of the final EIS. A numerical index has been provided in the front of this volume to identify the individual or organizations who submitted each comment letter.

A tracking system has been devised to facilitate determination of how a particular passage in a comment letter was responded to in Volume 4. Each paraphrased comment in Volume 4 is assigned a number; these numbers appear in the margins of the Volume 5 letters to identify the passage or passages corresponding to particular comments in Volume 4. In this way, every comment contained in the letters can be traced to at least one (and sometimes more than one) paraphrased comment in Volume 4.

1.3 REFERENCES

Code of Federal Regulations (CFR). 1985. Government Printing Office, Washington, D.C.

40 CFR 1503 (Council on Environmental Quality), Commenting.

40 CFR 1506 (Council on Environmental Quality), Other Requirements of NEPA.

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RECEIVED
MAY 13 1986

CITY OF SPOKANE, WASHINGTON · FOUNDED IN 1881 ·

VICKI S. McNEILL, MAYOR

May 9, 1986

Rich Holton/EIS
U. S. Department of Energy
Richland Operations Office
P. O. Box 550
Richland, WA 99352

Dear Mr. Holton:

The Spokane City Council is concerned about the defense waste currently stored at Hanford and has instructed our staff to make a careful review of the environmental impact statement recently issued. Following that review we unanimously adopted the attached resolution No. 86-38.

Please enter this formal resolution in your records and call upon us at anytime for further comment.

We appreciate the difficult task you must face in dealing with such complex technical issues, but hope you realize that Spokane, by virtue of history and geography, is a population concentration equal to that of the State of Wyoming in which the major transportation corridors lie atop a sole source aquifer, in front of three hospitals and a high school, and passes through the center of the largest urban concentration between Minneapolis and Seattle. We are deeply concerned about transportation of all hazardous materials, including especially nuclear waste, because of that unique geographic situation.

Sincerely,

Vicki McNeill

Vicki McNeill
Mayor

p9s.hm.58

OFFICE OF THE MAYOR / FIFTH FLOOR CITY HALL / SPOKANE, WASHINGTON 99201-3335 / (509) 456-2665

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RESOLUTION NO. 86-38

WHEREAS, the Department of Energy has issued its Draft Environmental Impact Statement on disposal of defense waste currently stored at Hanford; and

WHEREAS, the two basic options are to continue to store the present and future nuclear waste at Hanford or to ship it elsewhere; and

WHEREAS, continued storage at Hanford means the transporting of future defense nuclear waste to Hanford and storage elsewhere means the transporting of existing defense nuclear waste from Hanford; and

WHEREAS, any transportation of radioactive material poses some danger; and

WHEREAS, transportation through urban areas creates more risk than through less densely populated areas; and

WHEREAS, the Draft Environmental Impact Statement indicates that the Department of Energy will make available money to ensure adequate emergency response and that federal support is also available from Federal Emergency Management Administration, Environmental Protection Agency, Food and Drug Administration, and the Nuclear Regulatory Commission; and

WHEREAS, local governments bear the ultimate responsibility for emergency response planning; -- NOW, THEREFORE, IT IS HEREBY RESOLVED BY THE CITY OF SPOKANE:

1. The Department of Energy is urged to employ the most favorable technological means to solidify and store hazardous wastes at their point of origin, and 3.3.2.1

2. The Department of Energy is urged to choose that option which creates the least risk and requires the least amount of nationwide transportation of defense waste, and 3.4.2.2

3. The Department of Energy and other federal agencies are urged to make available to local emergency response providers the support promised in the Draft Environmental Impact Statement. 3.4.2.24

Adopted by the City Council May 5, 1986.

CITY OF SPOKANE, WASHINGTON

Marilyn J. Montgomery
City Clerk

Approved as to form:

Assistant City Attorney

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United States Department of the Interior

BUREAU OF RECLAMATION
PACIFIC NORTHWEST REGION
FEDERAL BUILDING & U.S. COURTHOUSE
BOX 043-550 WEST FORT STREET
BOISE, IDAHO 83724

RECEIVED DOE-RL
MAY 21 1986
WM DIVISION

IN REPLY REFER TO: PN 150
120.2

MAY 15 1986

Rich Holten/EIS
U.S. Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

Dear Sir:

The Draft Environmental Impact Statement for Disposal of Hanford Defense High-Level, Transuranic and Tank Wastes, Benton County, Washington (ER 86/612), has been reviewed by appropriate personnel within our organization, and we have no objections to the content of the document. Please let us know if we can be of further assistance in the review process. 2.3.2.12

Sincerely yours,

John R. Wordsworth

Regional Environmental Officer

cc: Commissioner, Washington, D.C. (Attention: W-150)

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MAY 21 1986
WM DIVISION

11644 S.E. Morrison
Portland, OR 97216
May 15, 1986

Rick Holton/EIS
U.S. Dept. of Energy/Richland Operations

Dear Mr. Holton:

I have read the draft EIS summary Disposal of Hanford Defense Wastes, March 1986. I wish to submit this letter as my comments for the record.

I favor the geologic disposal alternative for all Hanford high-level transuranic and tank waste. 3.3.1.1

The geologic alternative is conceptually much safer in the long run. I favor disposal in a horizontal mountain ~~shaft~~ rather than deep disposal, but I understand this is another problem entirely. 3.3.1.4

I have serious doubts that DOE can (1) vitrify high-level waste in large enough quantities and (2) retrieve waste after it is buried in the proposed repository (~~circa~~ circa 1998). DOE claims 3.3.5.4 3.1.8.13

003

it can do both.

3.1.8.13 Preparation of all Hanford high-level transuranic tank waste for geologic disposal will allow DOE to prove to the public that DOE can make good on its claims.

The other alternatives are not very good.

3 Finally, I object strongly to

3.1.3.25 DOE's continuing assumption that Hanford transuranic waste will go to the New Mexico WIPP site. Even though TRU is not as hot as cesium and strontium it should nevertheless be buried in the final repository.

Please place my letter in the public comments record.

Sincerely,
Dan L Kniesner
Dan L. Kniesner

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RL COMMITMENT CONTROL
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Kai N. Lee
2015 Federal Avenue E., Seattle, Washington 98102

9 June 1986

Hon. John Herrington
Secretary of Energy
U.S. Department of Energy
Washington DC 20555

Dear Mr. Secretary:

I am writing to comment on the draft environmental impact statement released by the Department of Energy (DOE) on the defense radioactive wastes stored at the Hanford Reservation. I have previously learned about these issues in academic research at the University of Washington and as a member of the Board on Radioactive Waste Management of the National Research Council; I have also served in the past as a consultant to Rockwell Hanford Operations. I write here as an individual, however, representing no one except myself.

I should like to make three points. First, the effort to take positive remedial action at Hanford deserves strong support. Second, remedial action is so costly that one must doubt the feasibility of the action alternatives proposed in the EIS. Third, remedial action is unlikely to be consistent with standards and regulations governing wastes generated today; a flexible regulatory approach will be both necessary and meritorious in this instance. In all three areas the support of the state of Washington is essential.

Taking remedial action. I strongly support the Department's initiative to take positive action on the Hanford defense wastes. While there is legitimate question about which course should be selected, that remedies must be implemented is not in doubt. This is so for both technical and institutional reasons. 2.3.2.12

The Hanford defense wastes are essentially all stored under conditions meant to be temporary; liquids intentionally released into the soil are an exception. "Temporary" storage has lasted more than 40 years in some cases, and the integrity of containment has been compromised in numerous instances. However effective the controls on tank leaks, these are short-term palliatives, not cures.

Tank leaks, dubious technical practices, weak management, and secrecy have all undermined public confidence in DOE's ability to handle radioactive wastes. No non-governmental waste generator would be permitted to continue its operations with such a track record. And the traditional defenses of national security and sovereign immunity will not be enough, especially as DOE continues its work on a high-level commercial waste repository at Hanford. 2.5.5

The Achilles heel of the national program to dispose of radioactive waste and spent fuel has been the flawed record of defense waste management. The extraordinary fear of nuclear waste "dumps" should be unreasonable: the wastes already exist; any technically viable geologic repository would be an improvement upon at-reactor storage; the transportation and emplacement hazards appear to be tractable compared to the problems of long-term surface storage, especially at reactors. This 2.5.5

reasonable line of argument is unsustainable today, in significant part because of the poor record at Hanford and other DOE installations. Those charged with the stewardship of the nation's largest inventory of radioactive waste have done a poor job. DOE's plans for future stewardship are accordingly suspect. Remedial action will not change public perceptions overnight. But the damage done by history will not diminish until cleanup is underway at Hanford. 2.5.5

In sum, there is no substantial argument for the no-action alternative as a permanent course of action; there has been far too much delay already. Making a choice and implementing it will be difficult, but I share the view implicit in issuing the draft EIS: the time to get started is now. 2.2.1

Funding. The cost estimates in the draft EIS are both large and uncertain, given the extensive engineering still to be carried out. Even the least costly action alternative, however, is priced at $2 billion, a figure that may prove to be conservative. 2.2.9

The high cost of cleanup has blocked remedial action at Hanford for a long time. That hurdle is no lower now, surely, with large federal deficits and increasing pressure on defense appropriations. Hanford cleanup still competes with the 600-ship Navy, deficit reduction, and other national priorities. Can any programmatic decision resulting from the EIS be funded? 2.2.9

While the one-time cost of cleanup is high, that is an inappropriate perspective to take on a project that will, in any event, take more than a decade to complete. I urge DOE to explore with Congress the establishment of a defense waste trust fund, setting aside a fixed sum each year to pay for activities at Hanford and other federal facilities where past practices require remedial action. Alternatively, a fixed percentage of the defense nuclear production budget could be paid into the trust fund each year, with the apportionment set to enable timely completion of cleanup at all federal installations. 2.2.9

The trust fund approach would provide greater assurance that the cleanup program can be brought to a successful conclusion. Moreover, the smaller annual appropriations into the trust fund would avoid stark tradeoffs. 2.2.9

Much additional analysis needs to be done before a trust fund can be proposed legislatively. Nonetheless, the issue of financing cleanup should be considered at this point. Otherwise, there is a real possibility that actions will be started but not completed because of cost; that sequence of events could, in turn, substantially magnify the environmental impact of any decision reached through this EIS. 2.2.9

Standards for unique circumstances. Under any of the alternatives that would leave radioactive materials in place, one could face a striking anomaly. If a high-level waste repository were located at Hanford, one would have long-lived radionuclides buried at great expense 3,000 feet below the surface, while material of similar long-term hazard would be left 30 feet below ground at the defense waste sites. This anomaly cannot be cured short of the costliest option, excavating the single-shell tanks; even then complete cleanup cannot be assured. I believe it sensible, accordingly, to tackle this issue head on in the final EIS. 2.2.7 3.1.4.30

The essential point is that long-lived wastes at federal facilities comprise a unique legacy. So long as the regulatory regime in force since 1970 continues, it should be impossible for the conditions at Hanford to be created anew. That regulatory scheme assumes, however, that wastes will be created and handled in ways compatible with regulatory objectives. This is not true of the wastes at Hanford, however. Attempting to restore near-surface conditions near the single-shell tanks to a state compatible with today's regulatory standards may be technical impossible, economically infeasible, managerially imprudent, or all three. 2.2.11

At the current state of technical knowledge, however, neither the ultimate level of cleanup attainable nor the cost of approaching or achieving this level is known with confidence. For that reason, selecting any single action alternative appears inappropriate, since the basis of a sound choice is not yet developed. Enough information does seem to be in hand, however, to rule out the no-action alternative. This partial decision can and should be made now. 3.3.4.1

In addition, it may be useful to set an upper bound on occupational exposure resulting from cleanup, for the purpose of guiding additional work. 3.4.1.1

With that policy in place, cleanup should begin, with experimental projects to prepare the Sr and Cs capsules for geologic disposal; to excavate waste from a near-surface tank; and to stabilize waste in a near-surface tank. The objective of these experiments would be to improve DOE's understanding of the engineering and cost implications of the remedial paths available. 3.3.4.1

The results of those experiments should then be discussed in a public document updating this EIS. Public comment on that document, from the state of Washington and other interested parties, should then form the basis of an another decision. That decision could, in turn, extend experimental work in directions guided by experience. 2.3.2.3

This approach differs from the one implicit in the EIS process in three important respects. First, implementation would begin without a final decision on the remedial option to be chosen, so that experience can influence future decisions. Second, those future decisions would be subject to public review at decision points, the first of which would be specified in the final EIS. Third, an important objective of remedial action in this initial stage is to improve our understanding of "best available technology" for cleanup, rather than to proceed as if that technology were known. 2.5.3

The approach recommended here assumes that learning is transferable to later stages of cleanup, and that the pace of learning will be rapid enough to result in more effective cleanup, lower occupational exposures, and lower costs. It is easy to believe that lessons will be learned from proceeding with cleanup. It is less clear that learning will be rapid, nor that lessons will be applied. That is why public review at later milestones is imperative, so that confidence in DOE's technical program can be tested and (one hopes) augmented. 2.5.3

The moving target of best available technology raises the possibility of revisiting tanks and other facilities cleaned up in earlier phases of the program. Such repetitions should not be ruled out. It is worth noting, however, that setting a guideline on occupational exposure per increment of environmental hazard reduction would establish a reasonable limit on repeated cleanups. That is because, as the technology improves, 2.5.3

the incremental benefits of cleaning up should decline. A risk-benefit comparison of the value of repeated cleanup will accordingly set a pragmatic stopping rule: some facilities will be riskier than the best technology can make them, but the risks of bringing them to the best attainable state outweigh the risks of leaving them as they are. 2.5.3

There is a likelihood that this incremental risk-benefit comparison, if applied to the existing situation, would lead to the no-action alternative. That path is precluded, however, by the policy arguments made above, concerning the broader implications of walking away from the Hanford legacy. Proceeding with implementation in the experimental mode suggested here permits affected interests to explore with DOE the appropriate balance of risk and benefit as experience is gained. 2.5.3

DOE is to be congratulated for moving forward on an effort to clean up Hanford. The support of the states of Washington and Oregon, and the Indian tribes whose ceded lands are affected, is essential if the cleanup is to succeed. That local support must be built in the difficult political environment created by the commercial high-level repository program. Two methods of building that support are discussed above: a defense waste trust fund, to increase confidence that federal financing of cleanup will continue; and an experimental approach to implementation, which permits identification of lessons learned and consensus-building on how to proceed next.

The need to act while building consensus and public confidence is the real message of the draft EIS. It should be the guiding theme of the actions selected.

Sincerely,

Kai N. Lee

cc: Governor Booth Gardner
Hon. Russell Jim
Mr. Michael Lawrence ✓

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

ER 86/612

AUG 21 1986

Mr. Rich Holten/EIS
U.S. Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

Dear Mr. Holten:

The Department of the Interior has reviewed the draft environmental impact statement for Disposal of Hanford High-Level, Transuranic and Tank Wastes, Benton County, Washington, and has the following comments.

General

In the 1960's the Atomic Energy Commission frequently suggested that radioactive waste could be isolated for tens of thousands of years at a surface disposal site by relying on engineered barriers and warning monuments. This concept was strongly rejected by the public and the scientific community, including the Geological Survey (USGS), who argued that during our short recorded history engineered approaches to the isolation of anything, much less such hazardous materials, have not proven to be reliable for periods sufficient to enable radiation emission levels of radionuclides to decay to an innocuous level. In response to these concerns, the concept of disposing of high-level and transuranic (TRU) wastes in a deep geologic repository was born. This concept is based on the premise that geologic formations with favorable hydrologic characteristics, when combined with engineered barriers, would form multiple barriers to the release of the disposed wastes into the environment for more than 10,000 years and reduce the possibility of human intrusion in the distant future. 3.3.2.8

Even though there has been extensive effort devoted to the location of a suitable geologic repository for civilian generated radioactive wastes in the last decade, the task is far from complete. This is some indication of the complexity of the task and the degree of concern expressed by the public over how high-level and TRU waste can be safely disposed. The Department of Energy (DOE) suggests that similar wastes at Hanford could be disposed near land surface with isolation dependent solely on engineered barriers and on flow through what is, at present, about 200 feet of unsaturated silt, sand, and gravel. The Department of the Interior considers this suggestion to be without sufficient foundation. 3.5.1.57

The Proposed Action

From the content of the draft statement, including appendices, and from discussions with DOE at Richland, it would appear that actions with which DOE is prepared to move ahead pertain to geologic disposal of current and future high-level liquid (double-shell tank) wastes and new and retrievably stored TRU wastes. In discussion of the

combination-disposal alternative, the wastes will be treated according to the type of facility in which the waste is stored, not by radiation level. For example, wastes stored in double-shell tanks and newly generated tank wastes will be disposed of in geologic repositories, and wastes stored in single-shell tanks will be disposed on site and buried near surface. However, the wastes, whether they are stored in single-shell or double-shell tanks appear to contain almost identical types and amounts of radionuclides. Apparently, the method of disposal is not dependent upon the characteristics of the wastes but upon their ease of retrieval. Additional studies should be implemented and ongoing studies completed before any actions are recommended for disposal of single-shell tank wastes, pre-1970 TRU buried wastes, and contaminated soil sites. These studies should address numerous issues such as infiltration rates, fluid movement in the unsaturated zone, radionuclide and chemical transport by surface water, numerical model development, leach rates of waste forms, retrieval methods for tank wastes and TRU buried wastes, and creation of new waste forms.

3.1.4.1

3.3.5.4

The statement fails to identify the mixed waste (radioactive and nonradioactive toxic chemical wastes) inventory at the Hanford site. Knowledge of mixed waste characteristics will be significant to any analysis of potential mobility through the natural geohydrologic system. In discussion of the geologic disposal alternative, the draft statement indicates that most of the radioactive wastes from the double-shell tanks will be removed and transferred to a deep geologic repository; however, double-shell tank residuals including waste treatment chemicals will be buried near the surface at the Hanford Site. The characteristics of these residuals should be defined, (i.e., are they classified as low-level wastes) before the DOE recommends a disposal approach for these residuals.

3.1.6.1

The appendices, containing supplementary material for Volume 1, are more informative about DOE's plans than is the main body of the statement and describe uncertainties in estimating effects of different processes and disposal techniques and radiological exposures. The appendices and discussions with DOE (Richland) lead us to conclude that DOE is not prepared to proceed on either retrieval or in-place stabilization of single-shell tank wastes or pre-1970 TRU buried wastes. There appear to be too many unknowns connected with either action. Retrieval and treatment technologies seem uncertain. The wastes are not adequately characterized. The physical and chemical stabilities of the wastes are not adequately known. The performance and stability of proposed engineered barriers are uncertain. Data are inadequate on infiltration rates. Available numerical models on unsaturated flow and transport are inadequate both in theory and in computational technique. Therefore the draft statement does not provide adequate information to accurately assess any of the alternatives for disposal of Transuranic and Tank Waste. The final statement should evaluate the additional research required to make decisions about disposal of both waste categories.

3.3.2.5

3.1.1.1

Endangered Species

The bald eagle and peregrine falcon were identified in the draft statement as occurring within or in close proximity to the Hanford Reservation. Other threatened or endangered species that could be affected by the continued leaking of contaminants into the river include the Columbian white-tailed deer and bald eagle and peregrine falcon in the Columbia River Gorge. The Department of Energy is responsible to initiate consultation with the Service under Sections 7(a) and (c) of the Endangered Species Act if it is determined that a listed species may be affected.

3.2.4.3

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Additionally, several species that have been identified as occurring on or adjacent to the Hanford Reservation are currently under review as candidates for inclusion to the list of threatened or endangered species. These are the furruginous hawk, Swainson's hawk, long-billed curlew, Columbia milk-vetch (Astragulus columbianus), persistent sepal yellowcress (Rorippa calycina var. columbiae), giant Columbia River limpet (Fisherola nuttalli), and great Columbia River spire snail (Lithoglyphus columbianus). As candidates, these species do not have any legal protection under the Endangered Species Act. However, the cooperation and assistance of all Federal agencies to protect and enhance populations of candidate species may preclude the need for their future listing. We would encourage DOE to take any actions needed to insure that these species are protected from any adverse impacts resulting from the proposed action. If you heve any questions regarding responsibilities under the Endangered Species Act, please contact:

3.2.4.3

Jim Michaels
2625 Parkmont Lane, Bldg. B-3
Olympia, Washington 98502
FTS 434-9444 or Commercial (206) 753-9444

Cultural Resources

The final statement should contain sufficient information to determine whether construction of the proposed facilities will impact cultural (archeological or historical) resources; 115 archeologic sites are said to be located on or near the Hanford Site, but there is no indication that the locations of proposed construction have been surveyed for cultural resources. Nor is there an indication of the scope of the survey performed by Rice (1968a, b) identified in the bibliography.

3.2.5.1

We recommend that the final statement clarify these items and document the opinion of the State Historic Preservation Officer regarding whether a survey of the project area is needed in accord with the requirements of 36 CFR 800, "Protection of Historic and Cultural Resources."

3.2.5.1

Fish and Wildlife Resources

Radioactive military wastes have been generated at the Hanford Reservation over the past 40 years. Past disposal techniques often consisted of placing waste material into pits or cribs and covering them with minimal quantities of soil. Although areas containing these wastes may be isolated from exposure to humans, this disposal method has offered little protection to the food chain of both aquatic and wildlife resources in the area. We are concerned that implementation of any of the proposed disposal alternatives, including the No Action Alternative, could result in continuing adverse effects to aquatic and wildlife resources under the stewardship of the Fish and Wildlife Service. Resources involved include anadromous fish (chinook, coho, and sockeye salmon; steelhead trout, and sturgeon), waterfowl and other migratory birds, and federally listed threatened or endangered species.

3.2.4.2

Information about leakage of radionuclides from the Hanford Reservation and its movement in sediments from Hanford to the Columbia River estuary was documented in

3.5.4.6

1973 by the USGS (Document No. 433-N, Radionuclides in Transport in the Columbia River from Pasco to Vancouver, Washington, 1973, by W. L. Haushild, H. H. Stevens, Jr., J. L. Nelson, and G. R. Dempster, Jr.). The draft statement indicates the presence of "hot spots" or "severe concentrations" of radionuclides in sediments of the river. There is a likely possibility that radionuclides may have already entered into the food chain of species under the legal responsibility of the Service. We are concerned that the disposal alternative selected could result in further leakage of radionuclides into the Columbia River ecosystem. Other federally protected fish and wildlife resources and facilities under our jurisdiction on or adjacent to the Columbia River may be adversely affected by the continuing leakage of contaminants from the Hanford Reservation. These Federal facilities include Saddle Mountain National Wildlife Refuge (NWR) (a waterfowl sanctuary) directly downstream—heavily used by nesting Canada geese), McNary NWR, Umatilla NWR, Ridgefield NWR, Columbian White-tailed Deer NWR (established pursuant to the Endangered Species Act), and Lewis and Clark NWR. In addition, several State of Washington Habitat Management Areas and the Bonneville Fish Hatchery (funded by the Corps of Engineers and operated by Oregon Department of Fish and Wildlife) may be adversely impacted. The draft statement does not adequately describe the direct or indirect impacts of the proposed disposal project on fish and wildlife resources on the project site or in areas adjacent to or downstream from the project. The final statement should identify measures to mitigate fish and wildlife losses in detail in the final statement.

3.2.4.2

The Executive Summary states that the "environmental impacts (both short- and long-term) calculated for the four alternatives are generally low." However, that conclusion is not supported in the draft statement. The discussion of environmental impacts (Section 5) does not address any of the above concerns. The draft statement does not include the results of any impact studies. The only discussion of project impacts on aquatic and wildlife resources is limited to a statement that the additional impact is "judged to be small" on page 5.12.

3.2.4.2

Based on the information presented in the draft statement, we are unable to determine what impacts, if any, the proposed project may have on the important fish and wildlife resources within and adjacent to the proposed disposal site.

3.2.4.2

In order to accurately assess the environmental impacts of the proposed action, we recommend the DOE include a detailed evaluation of all direct and indirect impacts and losses, and mitigation for fish and wildlife, as appropriate, in the final statement. Information reported in the Department of Energy's Annual Reports on Environmental Monitoring at Hanford should be used in the final statement to identify resources that could be affected by the proposed action. This information should also be considered in the analyses of the consequences from each alternative to ensure that the selected alternative would reduce potential adverse effects to resources on the reservation and on downstream aquatic and wildlife habitat.

Mineral Resources

3.2.1.6

Section R.3 notes that drilling into a waste-storage or disposal site from the surface is a likely scenario within 100 years if active institutional control of the site is lost. Two distinct types of drilling scenarios are postulated. Because each has different drilling objectives and different size drill holes, different volumes of waste and soil material are brought to the surface:

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1. Large diameter (30 cm) mineral exploration boreholes 300 m or more in depth;

2. Wells drilled at comparatively shallow depths (100 m or less) for domestic water supply.

The first scenario must presume the existence of mineral resources or mineral resource potential (either actual or perceived) within or near to the site, because deep, large diameter boreholes are not randomly drilled without geological, geochemical, or geophysical evidence to justify the operation. However, there is no direct discussion of the potential for mineral resources in the draft statement. Therefore, the final statement should describe the potential for discovery/recovery of mineral resources in the area. 3.2.1.6

Specific Comments

The following comments relate primarily to materials provided in the appendices to the statement.

1. We question the validity of the assumption that when the nuclides reach the Columbia River they would be mixed and diluted instantaneously by the large volume of flow in the river. The concept of instantaneous mixing and dilution by water in the Columbia River is misleading. When radionuclides reach the Columbia River, it is not unlikely that they could concentrate in narrow flow paths instead of mixing completely with the river water. Many nuclides have the potential to be adsorbed on clay particles contained in the river water or the bed. The major impact would consequently be on the food chain along the contaminated paths rather than on drinking water supplies dependent on the river. 3.5.4.8

2. Because of multilayering and the large differences in hydraulic conductivities, water possibly might move horizontally instead of just vertically as assumed and simulated in the model. This might also decrease the area in which diffusion controls the release of radionuclide migration in the unsaturated zone. 3.5.2.48

3. The assumption of vertical flow in areas that surround the protective barriers may not be conservative. Even if the materials are homogeneous and isotropic, the downward movement of water would tend to spread horizontally outward. If the materials are heterogeneous and anisotropic, the spreading could even be more. This in effect would reduce the travel time from the waste to the water table as the distance that diffusion controls migration would be less. Thus, a more conservative approach would have been to assume a trapezoidal shape for advective flow in the unsaturated zone. 3.5.2.48

4. Do the results of the model simulations really reflect the performance of a multilayer barrier and do the simulations really provide some assurance as to the overall effectiveness of the barrier? Do the equations used in these simulations accurately portray how water will or will not move through the barrier? 3.5.1.60

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Mr. Rich Holten/EIS

5. The system described is actually a 3-phase system; solid, liquid, and vapor. Will any of the contaminants migrate through the vapor phase? Cesium is unlikely but what about Carbon and Strontium? 3.5.2.47

6. The effect of migration of Carbon as Carbon Dioxide in the vapor phase on its movement to the water table should be discussed. In other words, assuming only diffusion of contaminants in the liquid phase through the unsaturated zone may not be conservative.

7. Lava flows and volcanism might be beneficial in that they may create additional cover over the wastes; however, the possibility that such events might raise the water table, because of compaction of the underlying soil, such that it comes in contact with the buried wastes should be considered. 3.5.6.37

8. The statement discusses hydraulic interconnection of the uppermost confined aquifer and the unconfined aquifer north of the "200 Areas." Contours and streamlines of figure Q.2 suggests that a portion of the ground-water underflow passing the "200 Areas" moves northward through the gap between Gable Butte and Gable Mountain. The impact analysis should address the possible significance of effects on the uppermost confined aquifer if failure of natural or engineered barriers should occur. The analysis should include effects on ground-water movement resulting from rises in the water table accompanying postulated future increases in recharge during wetter periods (e.g., greater than 5.0 cm/year). 3.5.3.16

9. The ground-water model assumes a tenfold increase in recharge whereas the surface-water model assumes a twofold increase in annual precipitation. The impact(s) of onsite flash flooding as a result of the Probable Maximum Precipitation following a series of wet years should be evaluated in Section 4.4.1. This analysis should consider contamination impacts resulting from flooding of onsite ephemeral streams and waste ponds. 3.5.6.7

10. The U.S. Corps of Engineers has evaluated the proposed construction of Ben Franklin Dam at river mile 348, about 16 km upstream from Richland, Washington. The higher water elevation that would be created by the dam could affect nuclear facilities along the bank of the Columbia River in the "100 Areas" site. The active "N Reactor" is in the "100 Areas" site and is producing radioactive wastes that would be managed under the procedures selected for Transuranic and Tank Wastes disposal. A reactivation of the Ben Franklin Project by the Corps could change the basis under which the "100 Areas" site for waste disposal would be evaluated, including the potential for higher ground and surface waters that could result from construction of Ben Franklin Dam. This issue should be addressed in the final statement because of the proximity of the "100 Areas" site to the Columbia River and the high value of its fish and wildlife resources. Steelhead trout and chinook salmon spawn in this reach of the river. This reach is also used by sturgeon and bald eagles. 3.5.6.12

11. We note that nine million cubic meters of fill material would be hauled to the "200 West Area" site and used for backfill and barrier construction. The borrow area should be rehabilitated after the material is removed. Replacement of top soil and revegetation could be employed to return this area to viable habitat. 3.2.4.6

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Mr. Rich Holten/EIS 7

We hope these comments will be helpful to you in the preparation of the final statement.

Sincerely,

Bruce Blanchard, Director
Environmental Project Review

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CITY OF KENNEWICK WASHINGTON
CIVIC CENTER
(509) 586-4161 / SCAN-526-2237
210 WEST SIXTH AVENUE / P.O. BOX 6108 / KENNEWICK, WASHINGTON 99336

June 16, 1986

R. A. Holten/EIS
U.S. Department of Energy
Richland Operations
P.O. Box 550
Richland, Washington 99352

RE: Comment on the Draft Environmental Impact Statement for The Disposal of Hanford Defense High Level, Transuranic And Tank Wastes. (March, 1986)

Mr. Holten:

The Kennewick Fire Department offers the following comment concerning the D.I.E.S:

The draft environment impact statement does not adequately address the impacts to municipal and state emergency services. Primarily the areas of training, planning and equipping need to be further discussed.

3.4.2.24 Training is currently available in handling radiological emergencies, but needs to be evaluated to ensure that programs are adequate for the potential emergency situations.

Planning procedures and the plans themselves at the federal, state, county, and municipal levels need to be assessed for adequacy and the ability to interface at different levels. Responsible agencies need to be identified for the smooth transition of authority.

Equipment needs should be evaluated. Current equipping for radiological emergencies is minimal at best, and may need to be upgraded.

The final environmental impact statement should include the impacts and costs to first responder agencies, as well as the emergency management system they will look to for support.

Sincerely,

Bobby F. Kirk, Fire Chief
City of Kennewick

BFK/dw

0007

June 22, 1986
Athena, Oregon

To: R. A. Holten,
Dept. of Energy

I am deeply concerned about any and all nuclear waste deposits being "stored" any place. It seems not only logical but sensible for all of us to encourage (demand) the scientists and politicians (and any statesmen available for service though) to eliminate nuclear weapons and plants for nuclear energy and work towards developing alternate energies. We've made one huge mistake getting into this nuclear edge of disaster. Each of us should take responsibility for that mistake and vote to abolish it.

Why do we keep making moves that lead us directly into huge

2.5.6

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projects costing billions when those likely "more" will cause us only more problems affecting our once pleasurable lives?

Jeanette Taylor
Rt. 1, Box 56
Athena, Oregon
97813

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5/14/86

Rich Holten/EIS
US Dept of Energy
Richland Operations Office
P.O. Box 550
Richland,
Washington 99352

Mr Holten:

I am writing to comment on the draft EIS " Disposal of Hanford Defense High-Level Transuranic and Tank Wastes."

Before I comment directly on the EIS I want to say that of the alternatives proposed , the geologic disposal is most favorable for one outstanding reason: if any of the other alternatives are selected it will only be a matter of time till Hanford is selected for all the commercial nuclear waste. Regardless of all the denials that is exactly what will happen. " If its's safe enough to bury defense waste there then it should be safe enough for all the nuclear waste" is how that argument goes. For that reason alone the in-place stabilization, disposal and refrerence alternatives should be dismissed. 2.3.1.12

If geologic disposal is approved and most of the waste is trucked off then the remaining low-level waste that is made into a grout should be disposed of only in 200 areas far away from the Columbia. Preferably it would all be trucked off. 2.2.11

I personally think the reference alternative is a sham because the EIS talks about wastes that are " currently stable and would be hazardous to retrieve" then talks about moving them from the 300 area to the 200 area ! ? There have been numerous reports in the press of leaking tanks, radioactive rabbits and ABC news called the Columbia " the most radioactive fiver in the world". This is stable? 3.3.3.1

In the EIS under the in-place stabilization disposal alternative it is stated that " little or no water is available to infiltrate waste sites and move the waste materials." It states the barrier would " prevent upward or downward movement ofwater by capillary action. " In a world of changing weather patterns , proximity to active volcanoes and the necessity to have this waste isolated for hundreds of thousands of years, this just doesn't satisfy me. In the US southwest there have been recent floods where none have been recorded before. I just can't believe that this waste can be sufficiently isolated from water by this gravel covering method described. 3.5.1.57

I could go on but will spare the reader. These weapons should never have been built in the first place but since they have, we must find the best way environmentally sound to dispose of it. Political considerations must take a back seat to environmental considerations. Storing this waste anywhere near the nation's second largest river is clearly insane. (I think a certain ranch near Santa Barbara belonging to one who truly loves nuclear waepons would be a better choice). Certainly a geologic disposal in an area with no major river is better than Hanford. 2.2.1 3.3.1.1

Sincerely yours,
John Proctor

John Proctor
Rt. 1, Box 310-J
Drain, Or 97435

This speech will be presented at the D.O.E. public hearing on July 8th 1986 at 3:05 p.m. at the Fed. Bldg. Auditorium at Richland, Wa.

thank you.
Delores Hodge

GOOD AFTERNOON, LADIES AND GENTLEMEN:

2.1.1 MY NAME IS DOLORES HODGE. I'M A RESIDENT OF WALLA WALLA, WASHINGTON: A HOUSE WIFE, MOTHER, UNITED STATES CITIZEN, PROFESSIONAL MUSICIAN...AND I AM AFRAID. AFRAID FOR MY FAMILY, MY CHILDREN, MY STATE, MY COUNTRY AND THE FUTURE. I AM AFRAID BECAUSE OF THE NUCLEAR WASTE DUMP SITE AT HANFORD, WASHINGTON. WE DON'T WANT IT!

3.2.6.1 THE WATER, AIR AND LAND ARE BEING CONTAMINATED. WHAT WOULD HAPPEN IF WE SHOULD HAPPEN TO HAVE AN ACCIDENT SIMILAR TO CHERNOBYL? JUST WHERE ARE WE TO BE EVACUATED TO? AND FOR HOW LONG? DON'T THE RESIDENTS OF THE TRI-CITY AREA AND EMPLOYEE'S OF HANFORD AND ALL PEOPLES THAT ARE FOR THIS ISSUE WORRY ABOUT THIS?

2.3.2.8 OUR WILDLIFE, OUR FISH AND OUR LAND IS BEING RUINED. OUR HEALTH IN GENERAL IS IN PERIL. THIS HAS TO STOP! I'VE TALKED TO HUNDREDS OF PEOPLE THAT OPPOSE THIS SITE AT HANFORD. DO YOU KNOW WHAT THEY ASK ME? QUOTE..."WHY HASN'T THIS BEEN PUT TO A VOTE"? I WONDER ABOUT THAT, MYSELF. JUST WHAT DO WE HAVE TO DO TO BE HEARD?

2.5.6 THE "N" REACTOR SHOULD BE SHUT DOWN IMMEDIATELY UNTIL ALL SAFETY MEASURES HAVE BEEN MET. NO MORE WASTE SHOULD BE ADDED TO THE MESS THAT ALREADY EXISTS. THERE IS NO TIME TO WASTE. WE ARE ALL AWARE THAT WE NEED NUCLEAR POWER, BUT WE MUST LEARN HOW TO CONTAIN IT IN A SAFE AND SANE MANNER BEFORE WE PRODUCE ANY-MORE OF IT.

FOR THOSE THAT DISAGREE WITH ME, THE ANSWER'S SIMPLE! IF I DON'T LIKE IT, THEN PERHAPS I SHOULD MOVE FROM THIS AREA. WRONG! I HAVE BEEN A RESIDENT OF THIS STATE MOST OF MY LIFE AND I LOVE IT HERE. THE NORTHWEST IS SOME OF THE MOST BEAUTIFUL COUNTRY IN THE UNITED STATES. I DON'T HAPPEN TO THINK THAT I SHOULD HAVE TO LEAVE. I THINK THAT THIS AREA, WHERE I LIVE SHOULD BE SAFE....SO I CAN ENJOY A HAPPY, HEALTHY LIFE HERE AND ESPECIALLY....ONE WITHOUT WORRY.

3.3.5.2 THERE ARE QUITE A FEW AREAS IN OTHER STATES THAT ARE DENSELY POPULATED THAT COULD HOUSE THIS WASTE WITHOUT HARM TO PEOPLE OR WILDLIFE. WHY CAN'T THESE AREAS BE CONSIDERED?

3.2.6.1 SPOKANE IS LARGE AND NOT THAT FAR FROM HANFORD. CAN YOU IMAGINE HAVING TO EVACUATE THAT CITY? WHAT OF THE FARMLANDS SURROUNDING HANFORD AND EXTENDING EAST TO WALLA WALLA? WE ARE TALKING ABOUT YEARS OF CONTAMINATION HERE...NOT JUST A FEW DAYS OR WEEKS. LOOK AT THE LARGE HOSPITALS IN THIS AREA, THAT WOULD HAVE TO BE EVACUATED. NOT TO FORGET ONE OF THE BIGGEST PROBLEMS... THE PENITENTIARY AT WALLA WALLA..... JUST THINK OF THAT FOR A MINUTE. WHERE DO THE SUPPORTERS OF THIS ISSUE PROPOSE TO PUT THESE PEOPLE IN CASE OF EVACUATION? I SHUDDER AT THE THOUGHT.

AS A MUSICIAN, I ENJOY SINGING SONGS THAT EXPRESS LOVE AND HAPPINESS AND PRIDE FOR MY COUNTRY. I DON'T WANT TO BE SINGING SONGS WRITTEN OF FEAR AND HOPELESSNESS.

I SPEAK FOR MYSELF, MY FAMILY AND FRIENDS AND ALL THE OTHERS THAT COULDN'T BE HERE TODAY. I SPEAK FOR THE LOVE OF MY STATE AND THE LOVE OF MY COUNTRY. I SPEAK FOR THE FUTURE GENERATIONS THAT CAN'T SPEAK FOR THEMSELVES.

THANK YOU.

DOLORES M. HODGE
806 SOUTH SECOND AVE.
WALLA WALLA, WASHINGTON
99362
TEL. (509) 529-0185
July 1- 1986

10

July 1, 1986

DOE Richland Operations Office
Attention: R. A. Holten / EIS Waste Management Division
Richland, Washington 99352

Dear Mr. Holten:

The Mazamas are a 2700 member outdoor oriented organization based in Portland. The club has had a long standing interest in Northwest Environmental issues. We consider the disposal of defense waste at Hanford to be one of the most crucial environmental decisions the Northwest has ever faced.

In deciding to postpone the second repository because of doubtful need for the additional disposal space, the DOE appears to preclude the option of co-mingling defense waste with commercial waste. There simply isn't enough space in one repository for the Commercial waste and the estimated 40,000 tons of defense waste at Hanford. We believe that the USDOE is acting in bad faith regarding the DEIS by effectively eliminating one of the options. 2.1.3 2.1.10

The Mazamas prefer an option that would include deep geologic disposal of the high level defense waste currently stored in near-surface tanks. We believe that the cost estimates for this option are unrealistically high and tend to bias the DEIS away from this option. 3.3.1.1

If the USDOE precludes deep geologic disposal, the Mazamas believe another option should be considered: that of vitrifying the high level waste before entombing it in near-surface tanks. 3.1.8.9

We hope you will take these comments into consideration as you make your final decision. We believe they represent a large

Nine-O-Nine Northwest Nineteenth Avenue - Portland, Oregon 97209 - Telephone (503) 227-2345

MAZAMAS were organized on the summit of Mt. Hood in 1894 - The purposes of the club are to explore mountains, to disseminate authoritative and scientific information concerning them, and to encourage the preservation of forests and other features of mountain scenery in their natural beauty. Anyone who has climbed to the summit of a mountain on which there is a living glacier is eligible for membership. The word "Mazama" is derived from the name of a mountain goat.

cross section of Northwesterners.

Thank you for this opportunity to express our views.

Very truly yours,

P. J. Oberlander, Chairman
MAZAMAS Conservation Committee

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2 July 1986

Jeff Boscole
3425 W.Lk.Sam.Rd.S.
Bellevue, WA 98008

(206) 746-8573

R.A. Holten/EIS, Waste Management Division
DOE Richland Operations Office
Richland, WA 99352

re -- Draft EIS, Hanford Waste

Dear R.A. Holten & Staff:

The three-volume and summary set of the Draft EIS: Disposal of Hanford Defense High-Level, Tranuranic and Tank Wastes, March 1986, provides an interesting and comprehensive overview of the technology factors associated with some considerations of radionucleotide storage at the Hanford site.

We are unconvinced the many fears have been adequately allayed. These include, but are not limited to, the "pocket gophers," the "groundwater contamination," the possibility of river flooding from major catastrophes ranging from natural earthquake to rupture of the Grand Coulee Dam as well as risks from geologic activity and/or volcanic eruption. These and other hazards strongly suggest that nuclear technology carries with it many potential risks which would render the utilization of atomic energy development unsuitable for consumption by those who subscribe to high standards of ethical responsibility to the environmental resource and to future generations of human beings. As a consequence of this ill-advised romance with nuclear technologies and of the warnings from eminent scientists throughout several decades of investigation, we are suspicious that the patterns for selective breeding will epitomize those personality types who were motivated by uncontrollable urges stemming from ruthless genetic endowments, with little perspicacity or sensitivity to cultural extenuations beyond mundane technocratic administrative functionality and bureaucratism aligned with conformist redundance. If the intent was to provide labor-saving leisure-time for an atomic economy, I will remind the hearing examiners that "idle-hands breed the devil's work." We are today witness to the devil's seduction of "easy" money.

3.5.6.35

2.5.5

The report details some statistical calculations of "health effects," however, this phrase must be a misnomer. The word "effect" means "to bring about; accomplish; fulfill; produce or make," yet in the passages which refer to "health effects" we are instead speaking of "ill effects," correct? Nothing inherent or intrinsic to the nuclear industry, from mining to processing to waste storage, suggests anything beneficial to

4.1.27

the "health" of human beings; rather we read of the clever financial scheming linked with engineering boondoggles exacerbated by the refusal of highly competent scientists to be associated with the nuclear projects. If the DOE wishes to include references depicting the "ill effects" anticipated by this dubious marriage to nuclearist technologies, then the labels ought to be altered to reflect the situation. Since we believe that the DOE has been informed of this particular semantic problem many

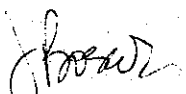
2.5.5 times before in the past, the continued abuse of language is inexcusable and cannot be tolerated. Further persistance with misnomers only indicates to us the degree of untrustworthyness among the radiological staffpeople which will create only that scenario of contempt into which tomorrow's children will be cast. Will they find occupations that stimulate and envigorate healthy bodies as well as minds, hearts and souls?

4.1.27 To qualify as a "health effect" according to Webster, the item must "bring about or accomplish or produce ... health" however, it is obvious by the general linguistic constructions embodies by the Draft EIS that these biochemistry engineers have overlapped "economic health" with "physiological health," i.e. by mixing together the production of waste with the subjective feelings attending that moment of waste creation. It is natural for a political management prospectus to coagulate around that crust of conglomeration, abomination and apostasy. In many respects,

2.5.5 the characteristics of radionucleotide waste amortization remind us of the swashbuckling Nazi-movements of the mid-20th century, 'true believers' in the burgeoning powers of the scientific methodology of human relationships. As we point out in a repeatable DO ... WHILE ... UNTIL loops, the social factors of Part Three (3) "Waste Disposal" cannot be delimited from the sociology of Parts One (1) "Mining" and Parts Two (2) "Nuclear processing." The substitution of technocratic economies for Christian spirituality will again destroy this civilization psychologically as by the "enemy within," as other civilizations had been destroyed by our painful past experiences. (See -- Herbert Marcuse One-Dimensional Man, 1961) Nothing in the usage of "health effect" in the Draft EIS report might explain the depth of "newspeak double-talk" epidemic to the progress of this disease.

13

your choice -- heaven or hell,



A.E. VanVogt Destination Universe
Francis Schaeffer True Spirituality
Paul Tillich Systematic Theology
William A. Reuben The Atom Spy Hoax
Esther Veramae Hamel The (Fully Revised) Encyclopedia of Judging and Exhibiting Floriculture & Flora-Artistry -- A Classic 5th ed.
Alexander M. Bickel The Morality of Consent

TESTIMONY OF

GOVERNOR BOOTH GARDNER

STATE OF WASHINGTON

for

USDOE PUBLIC HEARINGS

on

DEFENSE WASTE ENVIRONMENTAL IMPACT STATEMENT

by

CURTIS ESCHELS

SPECIAL ASSISTANT ON ENERGY ISSUES

July 8, 1986

012

Governor Gardner requested that I express his regrets that he could not be here personally to comment on the Draft Environmental Impact Statement on the Disposal of Hanford Defense High-Level, Transuranic and Tank Wastes. He asked me to present his testimony. My name is Curtis Eschels. I am Governor Gardner's special assistant on energy issues. I Chair the state of Washington Energy Facility Site Evaluation Council, and I am a member of the state of Washington Nuclear Waste Board.

Before I make specific comments, I will take a few moments to list general criteria the U.S. Department of Energy (USDOE) should use to reach decisions. The number one criterion must be the protection of public health and the environment. To meet this all important criterion, USDOE must: 2.2.3

- use state-of-the-art technologies; 3.3.5.4
- comply with appropriate laws by leaving the shadow of the 1954 Atomic Energy Act exclusions and moving into the sunshine of current federal legislation; 2.4.1.1
- consider economics, but not allow economics to drive decisions; 2.2.3
- minimize future releases; and 2.5.6
- make sure science, not politics, prevail in the decision making process. 2.2.1

The cleanup of this 40 years accumulation of wastes is a major, long-term challenge for USDOE and the state of Washington. This Draft EIS is the beginning of a long, difficult, and expensive task.

I am pleased that the citizens of this region have become so knowledgeable about this issue. I credit the USDOE and state of Washington information programs for providing information to the citizens. I hope these information programs will continue even though the Draft EIS comment period will soon end. 2.3.2.8

The following specific comments are made in the spirit of improving this draft impact statement. This three volume, 1,000 page document is, for the most part, clearly written and technically sound. However, to make the final document complete and adequate, USDOE must incorporate the following issues.

Chemical Hazards

The scope of the DEIS is too narrow. The document does not adequately deal with the hundreds of thousands of tons of chemical wastes included in tank wastes and dispersed in Hanford soils. The hazards of chemical contamination are no less real and urgent then 3.1.6.1

the hazards of radioactive materials. USDOE must inventory the chemicals contamination and each disposal alternative must specifically address chemical contamination.

Soil Barriers

The Draft EIS appears to make overly optimistic performance assessments for soil barriers. The validity of the EIS is in jeopardy if the available literature has been misrepresented. Barrier performance must be substantiated by previous studies and actual experience. Pathway and travel time calculations are meaningless until barrier performance is substantiated. 3.5.1.57

Compliance With Safety Laws

We are concerned that the USDOE emphasis on stabilization of tanks is contrary to the Nuclear Waste Policy Act "multiple barrier" approach which requires stabilization of both the container and the wastes. The USDOE approach leads to an acknowledged contamination of Hanford groundwater. Contamination of groundwater is contrary to state law. In the final EIS, USDOE should agree to comply with all appropriate state laws to protect public health and the environment. 2.4.1.1

Compliance With the National Environmental Policy Act

In the final impact statement, USDOE must specifically identify the impacts of "the" proposal as required by the National Environmental Policy Act. The use of "bounding assumptions" to cover a range of impacts or alternatives is not acceptable. Delayed records of decision will require, as a minimum, a supplemental EIS with an opportunity for citizen comment. 2.4.1.17

The draft document calls for a system to mark the boundary of the actual disposal sites. USDOE describes what it calls "actual disposal sites" which would cover 32 square miles. In our opinion, not all the 32 square miles must be off limits forever. Only that land that is irretrievably contaminated by dangerous wastes should be written off. USDOE must establish a separate, public process to condemn land prior to writing it off. 2.5.7

Ability to Monitor

USDOE must, in the final EIS, evaluate the impact of defense wastes on the ability to monitor a proposed repository. This monitoring is especially important in the earlier postclosure years. It is obvious that even consideration of a repository requires the best possible cleanup of defense wastes. 2.1.7

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Effect on Other Decisions

2.2.3 Health and safety issues must be the major factor in the cleanup of defense wastes and in decisions leading to the selection of a site for geologic disposal of high-level wastes. From all indications, the decision to indefinitely postpone work on a second repository was based, in part, on USDOE data which assumed single-shell wastes

3.3.2.1 would not go to a repository. If the decision was influenced by such an assumption, there will surely be added pressure by USDOE to stabilize the single-shell tank wastes in place. In addition, the use of such data to make a decision on the second round repository raises serious questions about the validity of the geologic repository alternative for single-shell wastes. The spirit and intent of the National Environmental Policy Act requires consideration of

2.1.7 valid alternatives. The final EIS must clear up this confusion and must clearly address the impact of single-shell wastes on the design and construction of a repository--wherever it is built. The final document must include specific information on the number of canisters of glassified waste USDOE expects to extract from single-shell tanks.

Conclusion

3.3.5.3 In conclusion, I support strongly USDOE's efforts to move ahead on key elements of the Hanford cleanup. This includes continuing research and preliminary design work on the glassification and grout facilities. The state of Washington will work to forge a coalition to support cleanup funding.

The Washington State Nuclear Waste Board will testify at the Seattle meeting and the Board will submit detailed comments on or before the August 9 deadline.

Governor Gardner and I thank you for this opportunity to comment.

RECEIVED DOE-RL
JUL 9 1986
WM DIVISION

001 3

Gordon J. Rogers
1106 Road 36
Pasco, Washington 99301
July 8, 1986

U.S. Department of Energy
Richland Operations Office
P.O. Box 550
Richland, WA 99352
Attention: Mr Rich Holten

RECEIVED DOE-RL
JUL 9 1986
WM DIVISION

Dear Mr. Holten:

I submit the following comments for your consideration on the draft EIS on Disposal of Hanford Defense High Level, Transuranic and Tank Wastes.

I approve of the USDOE's effort to evaluate alternatives in order to select a cost effective method for permanent disposal of these wastes in a manner which provides appropriate protection to the public and to plant employees in accordance with federal and state laws and regulations. 2.3.2.12

I favor the basic approach of the In-Place Stabilization (IPS) alternative for the following reasons:

- It is not at all clear that there will ever be a deep geological repository; or if there is, on what time frame it may become available. The IPS approach permits field work on waste stabilization to proceed without waiting for resolution of the complex political problems of where to site the repository. 3.3.2.1
- The IPS approach involves minimum physical disturbance of the waste materials. This reduces the problem of dispersal of radioactive material or contaminated soil, as well as the political and public relations problems associated with transportation of packaged wastes to some other site for disposal. 3.3.2.1
- This approach permits recovery or ready retrieval of radioactive cesium and strontium capsules which are a valuable product for medical sterilization or food irradiation applications. 2.5.8
- The barrier and marker system will achieve greatly improved protection against accidental disturbance of the wastes for a long period into the future. While there may be refinements of the details of the barrier and marker during the detailed design phase, the basic approach is sound and is far superior to anything I am aware of having been planned for hazardous or toxic chemical 3.5.1.4

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U. S. Department of Energy
Rich Holten
Page 2

waste disposal sites. The non-nuclear chemical hazardous wastes are
3.1.6.1 present now in far greater amounts and are potentially far more of a hazard to human health and safety than are the defense wastes; and they will remain so indefinitely into the future.

•The calculated health and safety impacts of the IPS alternative are as
3.3.2.1 low as or lower than those of the other alternatives and clearly meet the requirements of the applicable laws and regulations with very comfortable margins for error or oversight. In addition, they meet the ALARA objective. The health impacts are trivial in comparison with those due to naturally occuring radiation and also in comparison with the much higher risks to life and health arising from almost all other common human activities.

2.2.4 •The estimated cost is the lowest of the alternatives evaluated. This is important because taxpayer funds are always in limited supply; and there are many ways in which funds could be spent to far greater advantage in protecting public health and safety.

Thank you for the opportunity to present my views to you on this subject.

Very truly yours,

Gordon J. Rogers

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JUL 9 1986
WM DIVISION

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503 771 0967

4240 S.E. Knapp Street,
Portland.
Oregon. 97206
July 5th. 1986

Dear Mr. Holten,

Draft Environmental Impact Statement.
Disposal of Hanford Defense High-Level,.
Transuranic and Tank Wastes.
DOE/EIS-0113 March 1986

Comments on the draft made as a member of the public are enclosed herewith.

Yours sincerely,

Trevor Griffiths

Mr. Rich Holten/EIS,
U.S. Department of Energy,
Richland Operations Office,
P.O. Box 550,
Richland,
Washington. 99352.

RECEIVED DOE-RL
JUL 8 1986
WM DIVISION

Comments on Draft Environmental Impact Statement (E.I.S.)
Disposal of Hanford Defense High-Level, Transuranic and Tank Wastes. DOE/EIS-0113 March 1986

The Draft E.I.S. is limited to a very detailed discussion of the 440 000 cu. yds. of Defense Wastes accumulated on the site since 1943 and the projections for an additional 60 000 cu. yds. in the next 12 years. Written to meet the requirements of the Council on Environmental Quality the document says it "...will also help ensure that the public is fully informed and is involved in the decision-making process.".

2.2.11 At first sight it appears that the decision is to choose one of three disposal options for action or a "no-action" option. In no case is a complete removal of all defense wastes from Hanford a possibility; in each case for action there must be a marker system for the retention of tank residuals. Whatever the outcome, the Department of Energy retains the discretion to decide what combination of options will be used, i.e. Geologic Disposal or In-Place Stabilization and Disposal. It is difficult to see in what way this is distinguishable from the third option outlined, i.e., Reference Combination Disposal. By virtue of the condition that all institutional control must notionally be assumed to be lost by 2150, it is shown that the "no-action" option

3.3.4.1 is unacceptable and is only included because NEPA says it should be.

The useful part of the exercise is the examination and documentation of health and safety impacts for each option. Here it is shown that in no case, short or long term,

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will there be any health effect to members of the public evident somatically or statistically. Moreover, the DOE is committed to maintaining this criterion when it exercises its discretion documented in Records of Decision.

Cumulative Impacts.

This issue is only touched on inferentially in the Summary, while the few paragraphs under Section 5.1.4 in Vol.1. under this heading fall a long way short of what is relevant 2.3.1.14 and essential if the E.I.S. is to have any credence. The Defense Wastes are only part of the total inventory of radioactivity on the site. There are process plants, operating reactors and irradiated components from elsewhere. How separate are they by location or nature and can it be shown that the interaction with Defense Wastes will not invalidate the analysis that has been presented?

If it can be inferred that by the year 2150 all operations not addressed in the E.I.S. will have ceased, then some underlying justification for the presentation may be seen. The Columbia Gorge was formed some 10 000 years ago, so to anyone sensitive to that magnificent feature the projection of concern to that extent in the future is well balanced. This in no way however can quench the concern for the present and next generation who enjoy it. Further comments are made as suggestions for public perception and public confidence.

Public Perception.

2.3.1.4 The time appears ripe for public perception of risk to be identified as an important ingredient of the Impact Statement and discussed in depth as objectively as any other issue. If the perception is ill-founded, it will through the democratic process distort and misdirect action and in the extreme induce apprehensions and ill-health which will be as real to the individual as if there were a material cause. There is no guide in the Statement to help appreciate the importance in commonsense terms of

3.5.5.12 the projected estimates of the health effects quoted. On page 17 of the Summary, dealing with Major Health and Safety Impacts shown on Table 3, it is said "...they do show some significant differences among alternatives,", this presumably with respect to the difference between 2 and 15 in 10 000 years. On page 3.35 of the Draft, Table 3.2 quotes the same range of figures as projected for 60 years, but it also shows that these figures are limited to the workers on the site; it is zero for the public. How is this to be understood by the public?

If a risk is evident to the senses or within the experience

3.5.5.11 of an average individual, then the figures should stand alone. When it is not, as in the case of radiological risk, should not the significance of the figures be discussed and explained on the basis of Appendix N ?

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Public Confidence.

The Draft E.I.S. addresses reponsibilities materially dependent on the actions of individuals, not identified in the document, who must direct and carry out operations over many future years. As envisaged by the public in the region policy directions are given by a bureau in Washington D.C. more influenced by its closeness to those concerned with short-term political expediency than those remote but directly affected. Administrative control is effected through a multi-headed hierarchy on site and operations are 2.5.5 delegated to contractors, faceless corporations isolated by distance and contractual conditions from any concern for local communities. If the E.I.S. is to be seen as more than a formality of little practical consequence, it is suggested that the line of responsibility should be set out.
It is further suggested that the senior local official should be named when appointed and charged with the task of setting up a liaison organization and meeting with communities downstream at prescribed intervals to disclose and answer questions on Records of Decision when made. Discussion of concerns both rational and irrational would build mutual confidence.

0015

7940 S.W. Carol Glen Place
Beaverton, Oregon 97007
July 4, 1986

R.A. Holten/EIS
U.S. Department of Energy
Richland Operations Office
P.O. Box 550
Richland, WA 99352

Dear Mr. or Ms. Holten:

The following comments are offered in response to the request for public input on the alternatives for "disposal" of nuclear wastes.

3.3.4.2 It does not seem appropriate for us (the public or media) to talk rationally about "a permanent solution" to this problem. It only seems prudent to discuss possible ways of temporarily storing the waste until such time that a method is developed to neutralize them in a meaningful way!

It is beyond my engineering intelligence to think of concentrating
3.3.4.2 radioactive wastes and placing them beyond reach (i.e. burying them far below the earth's surface) when their dangerous properties are described as having half-lifetimes of 100,000 years duration.

Man, in his usual "out of sight, out of mind and no longer my responsibility" approach to getting rid of garbage, may be tampering with something that just won't be disposed of in that way! We must find a way to make the waste harmless before it is put into a "permanent disposal site."

3.3.2.1 Without continuing to belabor the direction of my thoughts (which should be obvious by now), I vote VERY STRONGLY FOR OPTION NUMBER 2. Let's store the wastes as safely as possible in a location where they can be accessed when a PERMANENT SOLUTION is developed. (You know, even if that's 10,000 years from now, the material will still be as dangerous then as it is now!)

I thank you for any real consideration given to my thoughts.
2.3.2.12 Hopefully my, and other engineering/scientific, input will be considered to a higher degree than that given to the engineering input for the CHALLENGER's fatal flight. Politics and meeting someone's established schedule should not determine this decision!

Thank you.

Sincerely,

Milton H. Monnier, Professional Engineer

19

0016

American Water Works Association
Mid Columbia - Deschutes Subsection
6780 Reservoir Road,
The Dalles, Oregon 97058
July 8, 1986

Rich Holten/EIS
U.S. Department of Energy
Richland Operations Office
Post Office Box 550
Richland, Washington

Dear Mr. Holten:

As an organization vitally concerned with the maintainence and protection of raw water sources and the production of quality, potable drinking water, the Mid-Columbia/Deschutes Sub-section of the American Water Works Association would like to voice its concern and opposition to the planned events at the Hanford Nuclear Reservation in Washington State.

The thought that the Federal Government would consider this facility 2.1.1
as a repository for the nation's nuclear waste causes us great alarm. Recent disclosures by Washington State and Federal Officials have shown 2.5.5
that Hanford has long been using abusive waste disposal techniques which have caused gross contamination of the groundwater on the Reservation. These "pockets" of contaminates are yielding levels of uranium, tritium, nitrates and other low level radionucleotides which are unacceptable. Officials at Rockwell Hanford claim these "pockets" of heavy contamination are localized, but admit that the radioactivity will eventually make its way into the Columbia River. The U.S. Geological Survey, Nuclear Regulatory commission, and the US-EPA all report that radionucleotides 3.5.3.11
from Hanford could leak through the basalt layer under the Reservation and contaminate the Columbia River. Radiological Chemicals are the only chemicals regulated by the US-EPA in the National Interim Primary Drinking Water Regulations which have a direct carcinogenic effect on animals. These toxic agents are accumulative and the point of view that low levels of radionucleotides is no cause for alarm is ridiculous and irresponsible. Observed effects at the present time do not detract from the effects to which our children and their children will be exposed. Many communities 3.5.4.3
along the Columbia River depend on underlying aquifers for the source of their potable water. Contamination of the Columbia River will lead to the destruction of these sources.

The original Federal assessment on environmental impact for the Hanford site have now come under attack by the Washington State Nuclear Waste Board, who state that the U.S. Department of Energy failed to speak to a number of questions, including groundwater movement and contamination. The determination of risk assessment for the five sites thought to be clear candidates for the final repository designation, clearly showed the Hanford Reservation as a poor fifth choice. This examination was carried out as scientifically based as possible in the attempt to remove bias toward the selection process. By the panel's own admission, Hanford 2.5.5
was last on the list yet we see it selected amoung the top three candidates. Credibility of the selection process involved in the site selection has clearly been mislaid in favor of political pressures by eastern states.

2.5.5 We need to act swiftly and decisively in this most important issue facing the Pacific Northwest. We cannot allow this facility the free rein it has enjoyed in the past in monitoring its own activities. The results of this monitoring are clear, with the gross contamination of groundwater on the Reservation, exposure of workers to contaminated drinking water, and poor waste disposal/management practices as a result. The future of the groundwater aquifers, bordering and underlying the Columbia River drainages as well as the river itself, demands that action be taken to prevent any further contamination from taking place. The livability of the region and the environment need to be protected from the threat of radionucleotides whose half-lives exceed the lifetimes of individuals. We urge you to eliminate this threat and prevent any further contamination of the region to protect what we have and what we will give as an inheritance to our children. Thank you for your support and assistance in one of the most critical issues you will be faced with in the future.

Sincerely

American Water Works Association
Mid-Columbia/Deschutes Subsection

for: John E. Dennee, President ____

by: Brian R. Stahl, Chairman
Public Health and
Water Quality Committee

JED/brs

cc: Senator Bob Packwood
Senator Mark Hatfield
Governor Vic Atiyeh
Congressman Bob Smith
Senator Ken Jernstedt
Representative Wayne Fawbush

20

0017

July 9,1986

To: Rich Holten, E.I.S.,
U.S. Dep't of Energy, Richland Operation Office,
P. O. Box 550, Richland, WA, 99352

Input, re Hanford as radioactive waste disposal site, of Joseph L. Miller Jr., M.D.

My main input will concern the process being used in selecting this site. From three different angles, public information, and therefore opportunity for meaningful involvement in the planning process, has been inadequate. Until the public is fully informed, further consideration of Hanford should cease.

(1) While potential impacts on water quality have been at least superficially addressed, the public has not been informed of the direct connection between water they are now depending on for drinking, with the risk from leakage at Hanford. They have not been told that the deep wells, from which Portland water drinkers were drinking, last February, are at risk because of Hanford, both via the nearby Columbia River, and via uncharted deep aquifers. If 700,000 people who must drink this water whenever Bull Run water becomes too turbid, knew, and were told, that the safety of this water has a direct tie-in with radioactive waste disposal at Hanford, they would rise up against a Hanford choice. 3.5.4.3 2.1.1

(2) The people's power through Congressional veto, has been muzzled, through lack of public information (as described above) concerning how many Oregonians have a life and death stake in whether Hanford is chosen. If the existing water (or possible connection) source connection with Hanford were made known, it would become obvious that more people in Oregon (30% of our population in this state), have a stake in the Hanford selection process, than is the case in Washington state. This increased knowledge could pressure Congress into giving Oregon equal power, to that of Washington, to veto any choice of Hanford. 3.5.4.3 2.1.1

(3) Before any action is taken there should be open scientific discussion among all interested scientists of pertinent disciplines. I have not seen any evidence that this has yet happened. The Department of Energy, which has a conflict of interest, seems to be controlling the exchange of scientific information. 2.5.5

Respectfully submitted, Joseph L. Miller Jr., M.D.

Joseph L. Miller Jr., M.D. (retired Portland physician) 52815 E. Marmot Rd., Sandy, Or., 97055

0018

115 Locust Street
Walla Walla, WA 99362
July 8, 1986

Mr. Rich Holten
USDOE
P.O. Box 550
Richland, WA 99352

RECEIVED DOE-RL
JUL 14 1986
WM DIVISION

Dear Mr. Holten:

I am writing in lieu of appearing at the public hearing in Richland on July 8.

3.3.1.1 1) I strongly oppose underground storage of waste at the Hanford site, or at any other underground site.

2.5.6 2) I believe that the N-Reactor, largely responsible for these wastes, should be shut down. No new waste should be allowed to accumulate until a safe solution (one approved by the DOE and independent agencies) is found.

2.3.2.5 3) A new environmental impact statement is needed, one by an independent agency.

3.3.4.2 4) The emphasis should be on waste retrieval, not long-term storage.

3.4.2.2 5) Waste should not be transported across the country.

2.5.5 6) The credibility of the DOE is dubious, especially recently with the latest press releases regarding toxic releases from the Handford. It is mone than a little uncomfortable to be living downwind.

Sincerely,

Juanita Marie Wallin

cc:Gov. Booth Gardner
Senator Evans
Senator Gorton
Rep. Foley

21

0019

July 10, 1986

OREGON AND WASHINGTON CONGRESSIONAL DELEGATIONS
HANFORD HEARING
BONNEVILLE POWER ADMINISTRATION
JULY 10, 1986

RECEIVED DOE-RL
JUL 14 1986
WM DIVISION

Dear Sirs,

This letter is submitted in lieu of verbal testimony, on the issue of siting a nuclear waste depository at the Hanford site.

I would like to go on record as opposing this plan.

It appears clear from all information available that the Hanford site is a poor choice for a nuclear repository. Currently stored nuclear waste materials are already leaking into the aquafer within 10 to 20 years of storage. It is inconceivable that this site could contain wastes for the thousands of years necessary for deterioration of radioactivity. 2.1.1

If the federal government's arguement on the use of the Hanford site rests on the supposed imperviability of the containment vessels, the recommendation should be rejected out of hand. It is not possible to assure that a container will last any appreciable length of time; the human race has no experience with projects of this length or magnitude. 3.3.5.4

While my true feeling is that we should not be faced with the choice of placing this deadly material anywhere on this planet, I would at least favor an option which would not result in the inevitable pollution and decimation of southern Washington, northern Oregon and the entire Columbia river valley. A "safer" site would be one which is not only geologically stable (which Hanford is not) but also self contained, and not draining into major river systems or water tables. 2.1.1

Thank you for the opportunity to make my opinion known on this subject.

Sincerely,

D. Kamala Bremer

D. Kamala Bremer
2222 SE Salmon
Portland, OR 97214

020

0020

To Ms Karen Wheeless COM
US Dept of Energy
P.O Box 550
Richland, Wash 99352

7 July 86

Please Submit This for the record of the Hanford Defense Waste Disposal Hearing
Thank you
Bruce R Meland

Why not use the Nevada Test Site it is already Contaminated?

3.3.5.2 June 16, 1986

Honorable Mark O. Hatfield
Senate Office Building
Washington, D. C. 20510

Dear Senator Hatfield:

The enclosed pictures and the following description cover an event that happened on April 4 of this year. A friend and I were traveling north on Hwy. 97 about 5 miles south of Bend, Oregon when a tractor trailer rig also going north passed us at a very high rate of speed. We noticed that the cargo was on a U. S. Navy flatbed trailer and the container was marked with radiation symbols. We followed the rig to determine the speed he was traveling. To our surprise and horror the truck was doing 80 miles per hour. We copied all the visible information and took pictures so we could document the incident for the Oregon State Police.

They informed us they would follow up and file a complaint with the company. My friend, Bruce Meland, and I feel more action is required. 80 mph on a public highway is an excessive and unsafe speed for a passenger vehicle; for a large tractor trailer rig containing radioactive matter, the potential ramifications of
3.4.2.2 an accident are horrifying.

Mr. Meland and I feel that punitive action directed at the company and the driver, beyond the filing of a complaint, is necessary to discourage this sort of reckless behavior. Beyond that, we propose that Hwy. 97 not be used as a route for transporting radioactive or other hazardous matter.

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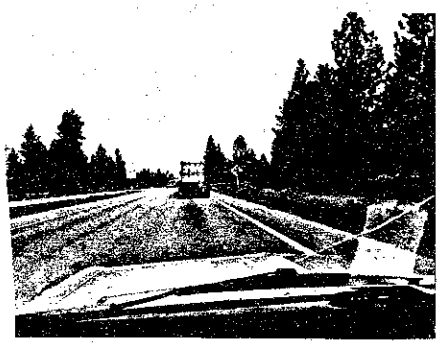
The incident I have described is a threat of enormous magnitude to the general public as well as the environment. We do not take it lightly. Please tell us what you can do to prevent a recurrence. For your information, following are the identification numbers of the tractor trailer rig: 3.4.2.2

U.S. Navy trailer No.	USN 311-045903
Container markings	Chem Nuclear CNSI-14-195-H-16
Trucking Company	TSMT (Spokane, WA.)
Truck (Ore. PUC No.)	DHT 986

Sincerely,

Jack W. Hirsch
P.O. Box 5186
Bend, OR 97708

Bruce R. Meland
63600 Deschutes Road
Bend, OR 97701



021

OC

7-10-86

To the Dept. of Energy hearing officers:

I am sorry that I am not able to appear in person to give testimony on the issue of nuclear waste disposal at Hanford, but I hope you will give this written message equal attention.

2.3.1.12 As a resident of Portland, Oregon I am extremely disturbed by the manner in which decisions are being made that will effect life in this area for generations.

2.1.1 Everything I have been able to read or have heard regarding the Hanford reservation indicates to me that it is highly unsuitable as a waste repository site. The geological instability of the area combined with Hanford's proximity to the Columbia River should be enough to discourage any further consideration of this site for continued as well as additional waste storage. There has already been leakage from waste containers. I cannot accept glib reassurances that the levels of radiation leakage from Hanford are insignificant.

2.5.5 I am also concerned about the lack of candor on the part of Hanford officials and those of the D.O.E. I have no confidence that the public is adequately informed of accidents and other problems that have already and will continue to poison our environment as long as there is nuclear waste and nuclear industry at Hanford.

Finally, I am dumbfounded by the refusal of the DOE to accept the testimony of the many geological authorities who have testified about the unsuitability of Hanford as a waste repository.

I urge you to reconsider your position and remove Hanford from consideration as a site for additional nuclear waste disposal. Instead, 2.2.11
I urge you to concentrate on how the waste that is so ill-protected there at the moment can be safely and thoroughly removed.

Erica A. Ruben
2344 NE 19
Portland, Or.
97212

23

Oregon Rainbow Coalition
P.O. Box 6797, Portland, Oregon 97228-6797

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Oregon Rainbow Coalition
P.O. Box 6797, Portland, Oregon 97228-6797

July 10, 1986

To: United States Department of Energy

From: Oregon Rainbow Coalition

Submitted By: Susan Giese

Comments on the Draft Environmental Impact Statement - Hanford Defense Wastes

Whereas:

- the present storage tanks at Hanford are inadequate, given their history of leakage.
- the US DOE does not presently have an adequate monitoring system to detect tank leakage.
- radioactive waste leakage present health hazards to the population of the immediate area, and to surrounding populations due to seepage of contaminated ground water into the Columbia River.
- the Draft EIS - Hanford Defense Waste offers four options, with no clearly stated preference.

Therefore:

2.2.13
- the US DOE should immediately implement an ongoing independent audit of their waste management activities at Hanford.

3.3.4.2
- present defense waste should be transferred to a Monitored Retrievable Storage facility while a permanent solution (possibly resulting from the combination of the present Draft EIS and citizens' comments) is thoroughly researched.

Whereas:

- the US DOE chose Hanford as one of three possible sites for a permanent commercial repository, regardless of it's last place ranking of five sites.
- the President has determined that civilian spent fuel can be co-mingling with high level defense waste for repository storage.
- site selection for the second repository site has been postponed.
- 2/3 of the federal government's high level nuclear waste inventory is stored in leaky tanks at Hanford.

Therefore:

2.3.1.3
- the US DOE should prepare an official Draft EIS and an overall Hanford plan which includes both the siting of the repository and the storage of defense nuclear waste at Hanford.

Whereas:

- the US DOE is a government agency which is ultimately accountable to citizens.
- decisions concerning the disposal of nuclear waste is of the utmost importance for the health of the present population and for that of future generations.

Therefore:

2.2.1
- the US DOE should make these decisions based on sound, scientific knowledge, not on political considerations.

3.3.5.4
- the US DOE should demonstrate leadership on these issues by bringing together the best of ideas and knowledge.

2.3.2.8
- the decision making process must include citizens' input and the US DOE must follow your own guidelines concerning notification of citizen groups particularly notification of affected Native American tribes.

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.023

Letter in lieu of testimony from John Bartels to U.S. Department of Energy July 10, 198
on the subject of storage of radioactive wastes at the Hanford Reservation
near Richland, Washington.

My name is John Bartels, I am a retired journalist and a former member of the Eugene Water & Electric Board, the municipal electric and water utility in Eugene, Oregon.

In 1970 I stumbled onto the amazing story of the radioactive contamination of the Columbia River in the 1950's and 1960's while I was doing research prior to the Nuclear Regulatory Commission hearings in St. Helens, Oregon on siting on the Trojan atomic power plant.

At that time I discovered that the DOE actually measured the amount of radioactive metals in the bodies of specific victims of this contamination in their communities on the coasts of Oregon and Washington states and along the Columbia River. These victims included seafood workers in Willapa Bay, Washington and Rockaway, Oregon and their children who ate contaminated shellfish and in this way received what is appropriately called in scietific jargon "a body burden of radioactive metals" including cesium, strontium and zinc.

For 25 years I have argued that the medical histories of these unfortunates would provide conclusive proof of the dangers of this nuclear roulette with the waters of the Columbia River that you are still blithely continuing. I have raised this contenetion at every available opportunity: siting of the Trojan nuke plant, operating reviews and hearings on Trojan, as a press aide to U.S. Representative Jim Weaver, my election as one of the six anti-nuclear electric utility commissioners in the U.S. in 1978, as a member of the Rules and Legislation Committee of the American Public Power Association, in the aftermath of the Three Mile Island nuke accident, and now in the aftermath of nuke accident in the U.S.S.R.

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During this time I think I must have experienced just about every type of inertia, buck-passing, opportunism, nest-feathering, irresponsiblity and deceit known to mankind.

Usually the people working for the private sector contractors keep their jobs and their mouths shut. Legendary exceptions around here are John Zeigler, who blew the whistle on inadequate design work by Bechtel Corporation on the Trojan plant. The Nuclear Regulatory Commission sent his letter to Bechtel costing him his job and covering up the Bechtel screw ups until they were raised before federal bodies again in 1973 and causing Trojan to be shut down for ten months in 1978.

Steve Stahlos blew the whistle when Rockwell discontinued environmental monitoring of Hanford wastes in 1979 and managed to stay in corporate bureaucratic limbo long enough to pressure Rockwell into resuming necessary testing again. Before Steve moved on to MIT he ran for Congress against "Atomic Mike" McCormack, longtime congressman from Hanford and started Atomic Mike's slide into oblivion.

On the other end of the scale we have Oregon Congressman Jim Weaver who raises hell about whatever antinuke issue is hot when he is running for reelection and hunkers down after.

From this I learned that that agendas of corporations and politicians, profits, convenience and tenure, would not help these local radioactivity victims.

Then we have the antinuclear and antiwar bureaucracies. The antinuclear bureaucracies are dependent on following the trends being picked up by the journalists who if they remain employed, are either sold-out or ignorant or worse. As a result these "countercultural bureaucracies" haven't mounted the crusade necessary to help these victims in Oregon and Washington and to shed real light on what you people are doing to us with your programs at Hanford.

(no comment identified)

What needs to be done is (1) force disclosure of the Hanford whole body counter examinations of the seafood workers and their children (2) identification
2.3.2.8 and notification of these people (3) medical examinations for cancers and finally study and conclusions about this involuntary experiment in human exposure to high level radioactive wastes.

And so honorable bureacrats masquerading as gentlemen I can only conclude
2.5.5 after 25 years of evasion, secrecy and deceit that this responsibility has finally come to rest on your unwilling shoulders.

Oh, I know you will say that this is a political matter and you can only do what the politicians in the Reagan Administration direct you to do. But I implore you to look into your souls if the pressure has not already turned it into a piece of glass and to not emulate Albert Speer who claimed to be only a technocrat while abetting the crimes of his political masters but instead emulate the estimable Dr. John Gofman, who discovered one os these radioactive isotopes while a graduate student and was drummed out of the scientific and defense establisiment for being a responsible human being and raising questions about the effects on human beings of this Pandora's box he helped to open.

John Bartels

John Bartels
PO Box 10744
Portland, OR 97210

July 10 1986
3279 NE Davis
Portland, Oregon 972

Dear Sirs:

I would like my opinion recorded in the Hearing regarding Hanford as a disposal site for nuclear wasti I feel that using this area would risk contamination of the groundwater should any waste seep through the easily fractured basalt rock underlyin the Hanford site. 2.1.9

I do not have an answer for what to do with the existing wastes that need a permanent resting place for I would not want a neighbor in another state to face the same proposed risk that we in the Northwest are facing but I do have an answer for the problem of what to do with future radioactive spent fuel and by produc 2.5.6 That is to stop generating them in the first place

I believe we can learn to live on this one earth without endangering our very existence by changing the way we think about national security. We can't depend on the threat of

2.5.6 nuclear weapons to keep us secure. Life on earth will be irreversibly damaged whether we use nuclear weapons and cause the end of life on earth quickly or if we do it slowly by contaminating our water with nuclear waste.

It's time to stop and change the way we think and act. Starting now let my voice be heard

Thank you for listening

Sincerely
Kathy Williams

0025

CAROLINE MILLER
Multnomah County Oregon
Board of Commissioners
District Three

County Courthouse
Portland, Oregon 97204
(503) 248-5217

TO WHOM IT MAY CONCERN

The Multnomah County Board of Commissioners, Multnomah County, Oregon, wish to submit the two enclosed Resolutions passed by the Board relating to Hanford and related Nuclear Waste issues, and have them read into the record of the proceedings heard in Portland, Oregon on this date.

Submitted this 10th day of July, 1986.

Enclosure

Passed Unanimous Consent 3/7/85 0125

BEFORE THE BOARD OF COUNTY COMMISSIONERS
FOR MULTNOMAH COUNTY, OREGON

IN THE MATTER OF the tentative nomination by the Secretary of Energy of the Hanford Nuclear Reservation for consideration as a federal nuclear waste repository

RESOLUTION

WHEREAS, the Hanford Nuclear Reservation in south-central Washington has been tentatively nominated by the Secretary of Energy as one of three sites for consideration as a federal nuclear waste repository; and

2.1.1 WHEREAS, the site of the proposed repository is only six miles away from the Columbia River; and

2.1.1 WHEREAS, the U.S.Geological Survey, the Environmental Protection Agency and the Nuclear Regulatory Commission have all suggested that the Hanford site is potentially unsuitable for a nuclear waste repository because unpredictable groundwater flows through the site threaten to contaminate the Columbia River with radionuclides; and

28 3.2.4.1 WHEREAS, radioactive contamination of the Columbia River would adversely affect commerce and recreational activities in Multnomah County, including fishing, agriculture, water-borne transportation, parklands, fish and wildlife habitats and other recreational uses of the river; and

3.4.2.3 WHEREAS, the Draft Environmental Assessment on the Hanford site indicates that 10,139 truckloads of high-level nuclear waste could be transported to Hanford from California over an unspecified period of time, presumably travelling along the I-5, I-205, and I-84 corridors, or along major rail lines running though Multnomah County, presenting serious potential impacts upon the health and welfare of County residents; and

3.4.2.3 WHEREAS, the Environmental Assessment projects that the equivalent of 170,000 truckloads of high-level radioactive waste would be transported to the proposed Hanford repository, yet no information is given about whether the shipments will be transported by truck, rail or barge; and

3.4.2.3 WHEREAS, the Department of Energy has not provided information about or criteria for determining transportation routes or modes, nor has it furnished a detailed assessment of accident risks for the unprecedented volume of nuclear shipments; and

3.2.4.1 WHEREAS, as a local health authority, the Board of County Commissioners for Multnomah County has a great concern over the public health impacts of potential seepage of radioactive wastes into the Columbia River and increased transportation of radioactive waste through Multnomah County, which is densely populated and at proportionately greater risk from any spills or releases of radioactive materials; and

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2.4.1.5 WHEREAS, under the Nuclear Waste Policy Act (PL 97-425), states in which a repository is to be located are allowed the right to submit a "Notice of Disapproval" to Congress, while adjacent affected states are allowed no such right; and

3.2.4.1 WHEREAS, there are more people living in Oregon downriver from the proposed repository, and the people of Oregon could suffer even-greater adverse impacts than the people of Washington if a nuclear waste repository is sited and operated at Hanford; and

WHEREAS, the Nuclear Waste Policy Act requires the Secretary of Energy to develop guidelines for selecting repository sites for consideration, and the Act states that geologic considerations were to be primary criteria for selecting potential repository sites for investigation; and

WHEREAS, the Department of Energy selected all sites now under consideration, issued Draft Environmental Assessments and informally nominated three sites for more detailed consideration before the guidelines for selecting sites had been developed and issued in final form; and

2.2.10 WHEREAS, over 450,000 gallons of high-level military nuclear wastes have already leaked into the near-surface soil at Hanford, and another 31 million gallons of intermediate-level wastes containing an estimated 3 million curies of radioactivity and 633 kilograms of plutonium were poured directly into the soil; and

WHEREAS, the outlook for the isolation of these existing radioactive wastes at Hanford is unclear because the Department of Energy has indicated that only a portion of the wastes will be moved to a deep underground repository, so that there is a need for accurate and unbiased information on the environmental and health impacts of the Hanford Nuclear Reservation even if no new radioactive waste is disposed there,

2.1.1 NOW THEREFORE BE IT RESOLVED THAT until the risks to Multnomah County citizens have been satisfactorily determined and alleviated so as to protect their environment, health and welfare in perpetuity, the Board of County Commissioner of Multnomah County opposes consideration and nomination of Hanford as a federal nuclear waste repository,

2.4.1.5 AND BE IT FURTHER RESOLVED THAT because of Multnomah County's proximity to the Columbia River and the potential adverse impacts on the health and welfare of its citizens and their environment, the Board of County Commissioners requests that Congress amend the Nuclear Waste Policy Act to accord Oregon the rights and privileges of a state in which a repository is to be located, and also to provide for monitoring of environmental and health impacts of nuclear waste storage and disposal sites by an independent federal agency, such as the Center for Disease Control and/or the U.S.Geological Survey

AND BE IT FURTHER RESOLVED that the Board of County Commissioners requests that the U.S.Department of Energy pursue the directives of the Nuclear Waste Policy

act to undertake a program of comprehensive national screening of various geologic media for selection of the first nuclear waste repository, utilizing geologic considerations as primary criteria for identification, investigation and selection of potential sites,

AND BE IT FURTHER RESOLVED THAT the notice of this Resolution be made known to the Secretary of the U.S.Department of Energy, the House Interior Committee of the U.S. Congress, the Congressional delegation of the Pacific Northwest, other Oregon and Washington jurisdictions potentially affected by the proposed repository, and entered into the official public hearing record of the U.S.Department of Energy.

DATED this _____ day of March, 1985

BOARD OF COMMISSIONERS
FOR MULTNOMAH COUNTY, OREGON

by _____
Earl Blumenauer
Presiding Officer

Pauline Anderson
Commissioner

Caroline Miller
Commissioner

Gretchen Kafoury
Commissioner

Gordon Shadburne
Commissioner

Passed. Unanimous Consent 3/7/85

29

BEFORE THE BOARD OF COMMISSIONERS
FOR MULTNOMAH COUNTY, OREGON

In the Matter of Requesting a Delay in the Start up of the Plutonium-Uranium Extraction Factory in Hanford, Washington, in Order to Provide an Opportunity for an Environmental Impact Study.

RESOLUTION

WHEREAS, the Federal Government is working to renovate a Plutonium-Uranium Extraction (PUREX) factory for nuclear weapons at the Hanford Nuclear Reservation in the Tri-Cities area of Eastern Washington scheduled to start up in October of 1983, and

WHEREAS, there is a history of radioactive waste leaks as well as routine release of radioactive wastes in gaseous and liquid form at the Hanford Nuclear Reservation which is a short distance from the Columbia River, and

WHEREAS, the Board of County Commissioners for Multnomah County as a local health authority, has a great concern over the impact on public health of Radiation Plutonium in the food chain of the Northwest and the risks involved in increased transportation of high level plutonium on Oregon highways, and

WHEREAS, it is the perception of the Board of County Commissioners for Multnomah County, Oregon that the development of a new generation of Nuclear Weapons by the Federal Government violates the spirit of Ballot Measure Five, through which the voters of the State of Oregon called for a freeze in the development of nuclear arms.

NOW, THEREFORE, BE IT RESOLVED THAT the Board of County Commissioners for Multnomah County requests of the Federal Department of Energy and the Congressional Delegation for the State of Oregon that they seek to delay the proposed start up of the PUREX plant in Hanford pending an environmental impact study by the Oregon Department of Environmental Quality, the Oregon Health Department and the Oregon Department of Transportation regarding the potential health impact of the operation of the PUREX plant in Hanford, and

2.5.6

BE IT FURTHER RESOLVED THAT the Board of County Commissioners requests of the State of Oregon that it undertake the aforementioned studies.

DATED this 4th day of August, 1983

BOARD OF COUNTY COMMISSIONERS
MULTNOMAH COUNTY, OREGON

(SEAL)

By _____
Presiding Officer

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Statement of Commissioner Jane Van Dyke
Clark Public Utility District
Vancouver, Washington
before the
U.S. Department of Energy hearing on
Hanford military waste disposal options
July 10, 1986

My name is Jane Van Dyke. I am a Commissioner of the Clark Public Utility District in Vancouver and I here tonight speaking on behalf of the PUD.

Clark PUD operates a water utility which serves more than 11,000 customers in a large geographic area of Clark County, including the areas of Hazel Dell, Salmon Creek, Hockinson, Brush Prairie and Venersborg. We rely exclusively on ground water to serve our customers, pumping from 16 wells which have a capacity of about 12 million gallons a day.

In the next fifty years, we expect water demand to increase substantially., We plan to supply most, if not all, of this demand by pumping additional ground water.

The estimated total water demand in all of Clark County at that time will be 117,000 acre feet per year, or about 38 billion gallons. Of this, about 75,000 acre feet, or about 64 percent, can be supplied through recharge from precipitation. The remaining 36 percent may require direct recharge from the
3.2.4.1 Columbia River. For this reason, we are vitally concerned about the future of Columbia River water.

We are very fearful that storage of any radioactive materials on the Hanford Nuclear Reservation could result in contamination of the Columbia River. If this happens, the 3.2.4.1
ground water resources of Clark County and other areas located downstream from Hanford will be affected.

Clark PUD strongly opposes any long-term storage of radioactive materials at Hanford and I urge the Department of 2.1.1
Energy to find a more suitable site for disposal of these wastes.

Thank you.

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JANE A. VAN DYKE
Commissioner
Office (206) 699-3378
Home (206) 573-2814

Public Utility District of Clark County
1200 Fort Vancouver Way
P. O. Box C-005
Vancouver, Washington 98668

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U.S.Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Wa 99352

July 10, 1986

Dear Sirs:

We wish to have the following comments included in the official hearing record of the draft EIS on Hanford defense high-level transuranic and tank wastes.

2.1.9 The basalt rock in the Hanford area is easily fractured. Existing factures already allow radioactive wastes stored at the site to contaminate groundwater. In turn this groundwater moves into the Columbia River which is so vital to fisheries, water transport and irrigation of the Northwest. Therefore, existing wastes must be completely solidified and stored in containers above the water table to insure that further groundwater contamination does not occur.

3.3.4.2 2.1.1 With regard to considering Hanford for a high level nuclear waste repository, the site is totally unsuitable. Hanford ranked last of 5 sites studied in a report required by the Nuclear Waste Policy Act because of the fractured basalt problems mentioned above. In addition, most of the new waste which would be stored at Hanford will be produced in the East. This means the waste will be transported across country, risking contamination of large areas from accidental spills. Therefore, the Hanford site is totally unacceptable as a radioactive waste depository, and problems with nuclear defense wastes presently stored at the site confirm this.

2.5.6 The ultimate solution to the radioactive waste storage problem is to stop generating these wastes in the first place. This requires a total shift in our thinking about national and global security. No longer can we afford financially, ecologically, or socially to produce nuclear weapons, which threaten our existance both from the force of their combined explosive power and from the wastes produced in their manufacture. Our thinking has to catch up with the reality that dependence on weapons to resolve our differences is obsolete (no longer useful). Instead, our mutual survival depends on cooperation and coexistance.

Sincerely,

Walter C. Mintkeski Vicki G. Mintkeski

Walter C. Mintkeski Vicki G. Mintkeski
6815 SE 31st, Portland, OR 97202

cc: Senator Mark Hatfield
Senator Bob Packwood
Representative Ron Wyden

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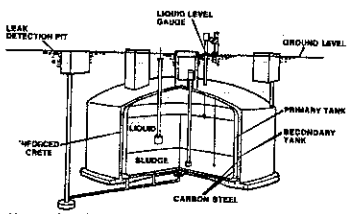
A suggestion for the site of Nuclear waste: Space, there are so many planets and so much talk of life in space. Why can't Hanford use a planet besides Earth to dump their Nuclear waste. If the U.S. is capable of building homes and actually conducting life on other planets I'm sure Hanford is capable of using another planet to dump there waste. This way None of the waste is endangering nature or people. 3.3.5.2

Another suggestion: Double wall tank underwater. There has been some talk about underwater cities. If this is possible in the future, why doesn't Hanford start now. They could build double wall tanks pictured below, under water. Some how, Some WAY, I'm sure Hanford could develop a way. 3.3.5.2



Newer double-wall tank

Marci James
1638 N.E. 118th Ave
Portland, Oregon 97220
Age: 14

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11644 S. E. Morrison
Portland, OR 97216
July 5, 1986

Rich Holten/EIS
U. S. DOE
P. O. Box 550
Richland, WA 99352

Dear Mr. Holten:

3.3.1.1 I have read the draft EIS summary on Hanford defense waste disposal and believe the safest permanent disposal of high-level tank waste, TRU, and spent reactor fuel capsules is geologic disposal. I disagree with the EIS assessment of the short-term radiological impact of geologic disposal vs. reference alternative disposal on summary page 17. If the high-level double-wall tank liquid wastes can be handled with a safety range of 0-4, then so can the single-wall tank sludge. 3.3.1.10

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3.1.8.9 Nuclear waste managers have long claimed the feasibility of advanced waste management technology--vitrification. It is now time for DOE to demonstrate the large scale engineering feasibility of vitrification, beginning with all the high-level tank wastes at Hanford current and future.

Please add these comments to the record of public comments.

Sincerely,

Dan L Kniesner

Dan L. Kniesner

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HANFORD STATEMENT

I am deeply concerned over what seems to me to be a dismissal of objective evidence indicating that Hanford cannot safely be a nuclear waste depository. Further, I am concerned over the apparent dismissal of concern by a majority of the residents and representatives of the area. 2.1.1

We who live here were not asked whether we wanted to have nuclear energy in the area. Because it is here and has been, we have already been unwitting guinea pigs in an on going experiment to see whether nuclear development and waste disposal are compatible with life in the region. Now, finally, we are asked what we want and when we express our verifiable concerns over destroying the habitability of the entire region through increasing the radioactivity of the Columbia River, political considerations take precedence and we are not heard, are not responded to. I find this extremely frightening. I am afraid--for myself and for my children and for all other residents of this entire region. 2.5.5

Statements have been or can be made about the irresponsible risks in transporting nuclear waste many, many miles across country. The accident in Ohio is but proof of the inevitability of a similar accident in the transportation of nuclear waste from east of the Mississippi. Evidence already exists concerning the higher costs of building a facility at Hanford, of the expected higher loss of life in construction, and of the already existing leakage of nuclear waste. What sort of evidence is needed to have decision makers realize that a nuclear waste disposal site at Hanford is not only ill advised and irresponsible but positively negligent as well? 3.4.2.2 4.1.22

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If this hearing is sincere, then I urge you to realize and carry
2.1.1 back to Washington and to the Congress the message that Hanford is NOT
a site that should be considered as a nuclear waste depository.

Thank you.

Peter Frothingham
3131 N.E. Emerson
Portland, OR 97211

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July 4, 1986

R. A. Holten,

You have listed 4 options concerning radioactive defense waste- none of them acceptable. May I ask why Hanford is allowed to continue running-producing waste, if there is no safe way of disposal? I understand Hanford produces plutonium for the Pentagon- I suggest a 5th option, give them the waste. I know you won't offer this option, for too many people might vote for it. We need to close down Hanford and we must never allow it to become the nation's nuclear waste dump. Let those who make the decision to make it keep it. 3.3.5.1 2.5.6 2.1.1

Mrs. Debra Larson
Box 81
Bay City, Oregon 97107

Carol J. Stuber
Box 481
Garibaldi, Or. 97118

Karen Ray
[illegible]
Garibaldi, OR [illegible]

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6/11/86
749 N. 79th

Seattle, WA 98103

Rich Holten
EIS
Dept of Energy
Richland, Wa

Mr. Holten

This is in regard to your seeking public input on the question of using Hanford as a permanent nuclear waste repository. I am a community college Math/Science instructor. Spring quarter of 1986 I taught a course titled "The Problems of Nuclear Arms." As part of my college course we discussed Hanford. We watched a video that had been made on my campus the previous year in which Hanford personnel and members of WASHPIRG discussed the pros and cons of using Hanford. We looked at the government report on Hanford and other writings on the subject.

Our unanamous opinion was that Hanford was an unfit site for a nuclear waste repository. The site is geologically unstabel. Although travel time could of the radionuclides could be as long as 80,000 years, it could also be as short as 20 years. The close proximity of Hanford to the Columbia river makes this too big a risk to take. Why is Hanford being considerd then? It is purely for political reasons. On the one hand Hanford is already owned by the federal government. On the other hand, the Eastern states which have most of the waste also have more of the votes in Congress. Please take Hanford off the list of candidates before an accident many times worse than Chernobyl occurs in Washington state.

2.1.1

3.4.3.1

Sincerely,

Theodore C. Coskey

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Conservation Plus Windows, Inc.

Authorized B.F. Goodrich Koroseal™ Dealer

Cascade Business Park
1085 12th Avenue N.W. Bldg. D6B
Issaquah, Washington 98027
(206) 391-0379

July 10, 1986

Dear Mr. Holten. EIS

I accidently wondered into the public hearing today and spent several hours listening to people speak. My concern is how did this mess at Hanford ever get this far?

I believed in low technology solutions to our energy production problems. When I find enclosed a copy of my business plan and my dream. I was in the B.P.A. building seeking help in securing a small loan or grant from B.P.A. to help me develop my business.

3.3.5.2

I was dismayed to find out that the B.P.A. is not funding conservation as it should, yet we spend billions on environmental disasters such as nuclear plants, dams and plants etc. etc. Hanford.

Where are our nation's priorities? When we throw money away on such wasteful projects and yet spend so little on conservation programs. I need $50,000 to get the

10 Year Guarantee by B.F. Goodrich B.P.A. Approved

We are in business to keep you warm and happy with our products and service and to conserve resources as well

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3) The vast majority of dual pane windows are too close together to properly insulate. At least 3/4" dead air space is needed (American Society of Heating, Refrigeration and Air Conditioning Engineers); most dual pane is only 1/2".

4) Neither dual pane windows nor storm windows are effective in stopping air leaks, which account for half of the heat loss through windows (U.S. Department of Energy).

Although plastic sheeting was the most efficient at the time, it has its own disadvantages: inconvenience, unattractiveness, and the necessity of yearly replacement.

The ideal treatment for windows, according to the MIT study, is an interior, rigid acrylic in a non-aluminum, magnetically sealed frame that would eliminate air leaks through the cracks in windows. Happily, B.F. Goodrich has taken the lead with that concept, and interior acrylic windows are gaining recognition and popularity with both residential customers and commercial concerns. The added benefits of this type of system are a virtual elimination of condensation, or "sweaty" windows, drafts, and the "cold shoulder" feeling one gets sitting near conventional glass windows.

Proposed Expansion

As an established business, contractor and corporation, it is now our desire to expand Conservation Plus Windows, Inc. This expansion will require a name change to Conservation Plus Home Services, Inc. Conservation Plus Home Services, Inc., will embrace all aspects of energy conservation and become a total, one stop source for energy conserving services, thus relieving the client of the responsibility of finding out who can do what to improve the home's thermal efficiency. Our company will make getting results our primary business purpose. In addition to B.F. Goodrich Koroseal™ Windows we will install or subcontract other quality products and services to solve all the energy problems of the homeowner.

Present ownership and management of Conservation Plus Windows, Inc., consists of Ray and Helen Chesbrough (husband and wife). Total responsibility for the business resides with the Chesbroughs who have invested $30,000 into it. For expansion of the company, consultation will be needed in the areas of engineering, energy extension, accounting and law. Contractors involved in various energy areas will be utilized for installation of products.

Blower Door as a Diagnostic and Marketing Tool

Our primary tool for marketing and lead generation will be the Retrotec Door Fan. This diagnostic tool measures and locates air infiltration. Known generically as the "blower door", this equipment simply either draws air out of the home or, conversely, pressurizes the home, enabling detection, through the aid of smoke pencils, of air currents in or out. Home owners are invariably amazed by this quick and simple demonstration of just where air leakage is occurring in their homes.

Leak detection is, however, only half the story. The Retrotec Door Fan also measures the extent of the leakage. While the fan is running, a built in microcomputer displays questions on its screen which the operator answers. The computer then determines and prints out the home's air change per hour, and its equivalent leakeage area.

The door test has tremendous impact on the homeowner; it arouses interest and thorougly establishes credibility and the need for conserving measures. What better way to explain energy problems to the homeowner than to physically demonstrate them?

The Retrotec Door Fan serves as a marketing tool in the following manner:

(1) A low cost, 30 minute retrotec test for the homeowner is advertised.

(2) A trained technician's visit establishes credibility and physically demonstrates a need for our company's services.

(3) The salesperson's visit is easily scheduled because Conservation Plus Home Services, Inc., has high credibility and has demonstrated energy losses to the homeowner.

(4) With credibility, lead generation and referrals are no problem.

Blower doors have been used in Europe, particularly in Sweden, for years and are just now being used in the U.S. They have been featured on "This Old House", "National Geographic", and CBS's news special, "The Energy Crunch - the Best Way Out". Presently there are very few contractors in the Puget Sound area actively using blower door technology. Cost for the complete Retrotec package, including the Door Fan, sales and marketing program, tools and supplies for the First 50 program (see next page), and training session with travel costs, is $15,000.

The Market

The market for energy conservation, both residential and commercial, is tremendous, especially during these times of spiraling energy costs. The typical home loses 40-60% of its heat through leaks. Saving that 40-60% through house-tightening and application of such quality products as B.F. Goodrich Koroseal™ windows makes much more sense than continuing to pay higher energy costs. Our company's scratch-resistant acrylic window system (Lucite SAR by DuPont), with the advantages acrylic offers in thermal efficiency, safety glazing, sound abatement and ultraviolet light infiltration, is especially suitable for commercial application. Blower door systems are available for commercial building analysis as well as residential. Expansion plans in the future would include purchase of commercial blower door equipment.

The next energy crunch will be a severe one, causing a tremendous demand on any company with the talent, skills, products and services to solve energy problems. The bottom line for Conservation Plus Home Services, Inc., will be providing energy savings results.

(no comment identified)

033

(no comment identified)

Save 30-60% on heating/cooling costs

How to keep heating bills down without bundling up.

Install magnetic interior insulating windows from BFGoodrich.

• Lowers energy costs • Reduces drafts • Minimizes condensation • Lowers noise levels • Matches any decor • Cleans easily

Designed to form a magnetic air-tight seal around primary windows, BFGoodrich magnetic interior windows can reduce drafts, double the insulating value of your windows, and cut your heating bills. Typically, these windows pay for themselves in less than three years.

Contact the dealer(s) listed below today for a no-obligation, in-home demonstration. And save yourself a bundle this winter.

BFGoodrich

Conservation Plus Windows, Inc.
CASCADE BUSINESS PARK
1085 12TH AVE N.W.
BUILDING D6B
ISSAQUAH, WA 98027
(206) 391-0379

"State of the Art Weatherization Utilizing Plexiglas® in Energy Conservation"

We are in business to keep you warm and happy with our products and services, and to conserve resources as well.

10 year guarantee by B.F. Goodrich

CONSERVATION PLUS WINDOWS, INC.
presents

B.F. GOODRICH KOROSEAL™ WINDOW SYSTEM
"THE INSIDE ADVANTAGE"

- Saves 30-60 % on heating/cooling costs – typical pay back 3-5 years.
- 2-3 times more energy efficient than glass/aluminum storm windows, also more efficient than thermopanes.
- Dramatically increases efficiency of your single or dual pane windows/sliding doors.
- Air tight – keeps out drafts, virtually eliminates condensation. (Also dramatically reduces pollen infiltration – good for hay fever/asthma sufferers.)
- Reduces ultraviolet light 75 % – carpets and drapes won't fade.
- Reduces outside noise by 10 to 1 ratio.
- Optically clearer than glass – no distortion – easy to clean.
- 18 times stronger and 50 % lighter than an equivalent thickness of glass.
- Easy to install inside your home with interior magnetic seal – custom made to fit most windows – no major construction work involved.
- A permanent solution to your window problems.
- Less expensive than thermopane retrofits.
- Attractive and unobtrusive, available in a variety of colors – no view obstruction and no alteration to outside decor.
- Wide application for use in homes, commercial and industrial buildings – BPA approved.
- Professionally installed and contractor-guaranteed.
- Guaranteed by B.F. Goodrich and Rohm Haas Company for 10 years. Materials used: pure virgin acrylic glazing made by Rohm Haas (the original Plexiglas® company with 40 year track record) and B.F. Goodrich extrusions and accessories. All quality, timed and tested materials.

"State of the Art Weatherization utilizing Plexiglas® in energy conservation"

Before you buy storm windows, or replace existing single panes (for which you paid good money) with thermopanes, give us a call and compare the efficiency and cost savings of the B.F. Goodrich Koroseal™ Window System. Our demonstration and estimate are free.

We are in business to keep you warm and happy with our products and services, and to conserve resources as well.

Conservation Plus Windows, Inc.
Cascade Business Park
1085 12th Ave. N.W.
Building D6B Issaquah, Washington, 98027
(206) 391-0379

10 year guarantee by B.F. Goodrich

(no comment identified)

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Fixing the Problem(s)

The Department of Energy's First 50 Program will be employed. The program is so called for 50 energy saving products and actions that pay back with a 50% return on investment. "The way to save energy is through a lot of small, simple, mundane, ordinary, low technology measures. When you put enough of these together, the savings are not just a few percent, but a very substantial savings in energy." ("The Energy Crunch - The Best Way Out", CBS News special report). These small steps deal primarily with air leakage problems which are uncovered by the Door Fan, but they also include measures to reduce hot water consumption and improve heat distribution, among others.

Side by side with the First 50 Program, our company will offer B.F. Goodrich Koroseal™ and other quality windows. We will subcontract out other major work such as heating, ventilation and air conditioning systems (HVAS); ceiling, wall and floor insulation and other energy saving products and services of benefit to the homeowner. We will rely on established, licensed, bonded and insured contractors for all subcontracted business.

The client will pleasantly experience: (1) increased savings of energy in the 30-60% range, (2) assurance that Conservation Plus Home Services, Inc., will be a one stop service company, and (3) quality control inspections which will include, most importantly, a post blower door test. By using the Door Fan to conduct both before and after tests, Conservation Plus Home Services, Inc., will provide a level of quality control unknown to the energy saving industry.

Westview Solariums

Other quality products handled by the company will include Westview Solariums. These well engineered, premanufactured solariums are a very attractive addition to any home. Westview Solariums are functional, airy, good looking solar collectors with many innovations for providing substantial heat for the home. Carefully designed features include customized, interior laminated beams which are treated for long life. These beams are precisely cut and bored, and display the beauty of natural wood as well as the strength of laminated fir. The solarium exterior features bronze anodized aluminum which is both attractive and maintenance-free. Glazing can be adapted to the olent's needs. Single pane glass up through 1 3/8" triple glaze units can be installed. Special glass such as Heat Mirror, low E, tempered or laminated safety glass may also be used. These exquisitely beautiful and functional sunrooms meet the demands of the most discriminating homeowner, and are surprisingly affordable.

Year 1 Revenue Projections

Monthly Sales Projection, Months 1-3

	Gross Sales	Profit
10 Blower door tests @ $100	$1000	$550
5 House doctoring with the First 50 Program @ $1500	7500	3750
2 New windows @ $3000 per home	6000	3000
1 Westview Solarium	25000	12500
1 Woodstove	3000	1500
3 Insulation @ $1000	3000	1500
Replacing broken windows with acrylic	2000	1000
TOTAL, MONTHLY PROJECTION	$47500	$22750

Note: Commercial bids submitted for Koroseal™ Windows: $5000-$50000/month. Commercial bids generally take several months for approval.

Monthly Sales Projection, Months 3-6

The 3-6 month sales projection does not exceed the first 3 month projection, except for possible addition of commerical application of Koroseal™ windows if previous commercial bids are approved.

Monthly Sales Projection, Months 6-12

20 Blower door tests @ 100	2000	1000
8 House doctoring with the First 50 Program @ $1500	12000	6000
4 New windows	12000	6000
2 Westview solariums @ $25000	50000	25000
2 Woodstoves @ 3000	6000	3000
6 Insulation @ 1000	6000	3000
Replacing broken windows with acrylic	6000	3000
Commercial installation of Koroseal™ windows	10000	5000
TOTAL, MONTHLY PROJECTION	$104000	$52000

(no comment identified)

(no comment identified)

40

Year 1 Projected Overhead and Operating Expenses

One time expense: Retrotec Door Fan, sales and marketing program, tooling and supplies, training for installers, transportation and lodging for 2 people	$15000
Year 1 Total of Monthly Expenditures:	
Shop overhead - rent, lights, insurance, etc.	4800
Advertising @ 1000/month	12000
Telephone with answering service	4200
Contractor's insurance, bonding, licenses	2500
Printing - mailing - secretarial help	6000
Legal, accounting, banking fees	4000
YEARLY TOTAL (excluding $15,000 for Retrotec Door Fan package)	$33500

Philosophy and Personal Notes

Being a strong conservationist, I am concerned about environmental problems related to energy production. As a contractor, I am interested in developing a business that is able to provide energy savings results in the 30-60% range.

The recent international disaster in Chernobyl vividly demonstrates how fragile our technology is. Risks for such disasters naturally increase as we turn to nuclear power for greater and greater energy production. With regard to non-nuclear energy sources, few realize that our own thermal, coal-fired plant in Centralia, Washington (with twice the output capacity of Trojan), consumes 15 tons of coal a minute - and that it is the second largest source of air pollution in Washington. Few realize that the most expensive conservation project on the face of the earth is the present attempt to restore fish runs on our own Columbia River system. High level nuclear waste disposal, acid rain, ozone depletion, etc., all are indicative of the fact that the high technology approach has very serious long term environmental problems. John Muir, founder of the Sierra Club, was correct when he stated "When we try to pick out anything by itself, we find it is hitched to everything else in the universe".

As an ex-chemistry and physics teacher, I have grave concerns about continuing to expand our technology to produce more energy. A more common-sense, low technology approach is simply to use less by plugging the holes. Conservation can be a way of life that will not diminish liveability, but enhance the quality of life for everyone.

Summation

Quality is not a luxury; it is an investment. Conservation Plus home Services, Inc., a one stop energy company, will be proud to offer quality products and services, beginning with the Retrotec Door Fan, the First 50 Program, the B.F. Goodrich Koroseal™ Window System and Westview Solariums. The blower door demonstrates the problems. House tightening, airtight windows, insulation, solariums, etc., all help solve them, with the result of energy savings in the 30-60% range and quality control new to such endeavors.

0034

9 Jersey St.

To whom it may concern.

The Hanford Nuclear Range is an unreliable site for a permanent nuclear waste dump site. The Columbia River flows through the nuclear range & is too important a landmark, water source for irrigation & drinking, & recreational resource. The placement of a permanent dump site @ Hanford would be irresponsible & potentially dangerous for people using the River downstream. 2.1.1 2.1.1

Sincerely
Mary Kennedy
4116 N. Stevens St
Tacoma, WA 98407

035

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7321-39th N.E.
Seattle Washington 98115
July 12, 1986

0035

Mr. Rich Holten:

I am writing to you because I am very Concerned
2.1.1 over the possibility of using Hanford as a dumping ground
for All Nuclear Waste. I find it deplorable that you
considerers entertain such an idea with our beautiful
Columbia River looking this way. Apparently you people
are not concerned about this or you wouldn't even
think of such an idiotic idea. I know they are even
dumping there now and that is bad enough - but to take
it the nuclear problems is something else again. If a State
Comm disposes of its own Waste - it should not be allowing
the type of energy. You had better think about the long and
hard -- you and we may not see any repercussions from
the dumping but our Children and their children will. The
packaging of the waste is not life-proof and neither is the
dump-site -- there is no guarantee that some people down
the line is not going to pay for our foibles. The Department
2.2.1 of Energy was designed to take care of the People's Welfare in the
form of Power. The Health & Welfare of all people today and in
the future should be your number one priority.

Sincerely
Mrs. Vivian Hoberg

41

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HANFORD DEFENSE WASTE ENVIRONMENTAL IMPACT STATEMENT
PUBLIC HEARING

AUDIENCE QUESTIONNAIRE

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1. How did you learn of the hearings?
Newspaper X Radio ___ TV ___ Mail ___ At work ___
Word of mouth ___ Other (please specify) Hanford Clearing House

2. Did you attend one of the Hanford Defense Waste Open Houses in February or March? Yes ___ No X Read about it in the newspaper, books, and periodicals (Sierra Club, Audubon)

3. Did you attend one of the Hanford Defense Waste Informational Workshops in May or June? Yes ___ No X

4. Did you have access to a copy of the Draft Environmental Impact Statement or the Summary? Yes ___ No X

5. Please rate each of the following:

	Very Good	Good	Fair	Poor
. Hearings moderator	___	X	___	___
. Procedures for recording comments	___	X	___	___
. Physical arrangements	___	X	___	___
. Process for requesting to comment	___	X	___	___
. Five minute comment period	___	X	___	___

6. Please share any additional comments you may have about these hearings.

We all know ~~know~~ that nobody, except those in Richland
wants Plutonium stored anywhere. However it is here to
2.5.6 stay, and I would like to hear proposals or ideas to store
Nuclear waste, and ideas to cease waste production.

7. Any additional comments about the process of submitting written comments on the Draft Environmental Impact Statement?

THANK YOU FOR ATTENDING THIS HEARING AND TAKING THE TIME TO FILL OUT THIS QUESTIONNAIRE.

HANFORD DEFENSE WASTE ENVIRONMENTAL IMPACT STATEMENT
PUBLIC HEARING

AUDIENCE QUESTIONNAIRE

1. How did you learn of the hearings?
   Newspaper ✓ Radio ___ TV ___ Mail ___ At work ___
   Word of mouth ___ Other (please specify) _____

2. Did you attend one of the Hanford Defense Waste Open Houses in February or March? Yes ___ No ✓

3. Did you attend one of the Hanford Defense Waste Informational Workshops in May or June? Yes ___ No ✓

4. Did you have access to a copy of the Draft Environmental Impact Statement or the Summary? Yes ✓ No ___

5. Please rate each of the following:

	Very Good	Good	Fair	Poor
. Hearings moderator	✓	___	___	___
. Procedures for recording comments	✓	___	___	___
. Physical arrangements	___	✓	___	___
. Process for requesting to comment	___	✓	___	___
. Five minute comment period	___	✓	___	___

6. Please share any additional comments you may have about these hearings.
   Please see other side of this sheet.

7. Any additional comments about the process of submitting written comments on the Draft Environmental Impact Statement?

THANK YOU FOR ATTENDING THIS HEARING AND TAKING THE TIME TO FILL OUT THIS QUESTIONNAIRE.

(no comment identified)

42

037

00037

I have a deep appreciation for the fact that we are living in a time and place where it is a part of our birthright to be able to speak out unafraid.

2.3.2.12

The five minute limitation was a reasonable guideline. However, I feel it would have been more respectful of the democratic process to have scheduled the Portland-based hearings for a sequence of shorter, early evening sessions (perhaps two or three evenings). Too many people were excluded from fully participating or viewing because of family and/or job obligations.

Historically, the rights of the people, on a long-term basis, have been "bestowed" upon them or denied to them by their own government and not by any outside force.

038

TESTIMONY BEFORE THE U.S. DEPARTMENT OF ENERGY

Submitted by: Margy Willis
Portland, Oregon

Date: July 10, 1986

My name is Margy Willis, and I live in Portland, Oregon. I am here to present the views of my family and friends.

We realize the difficult task before you, and we do hope a viable solution to the nuclear waste storage problem can be found.

We have many concerns about the selection of Hanford as one of the three 2.1.1 sites which could become the nation's first high-level nuclear waste dump. First of all, of the three sites under consideration, Hanford is the only site bisected by a major river. It is believed that water would be the most accessible means to carry radiation throughout the region. Over 2 million people in Oregon and Washington live along the shores of the Columbia River. By the Department of Energy's own figures, over 155 million gallons of nuclear waste water is being dumped into the Columbia River every year, and 3.4 billion gallons of chemical wastes are dumped into the Hanford soil yearly and are also finding their way into the Columbia.

The ability of the geological structure of the area is also in question for the permanent storage of high-level radioactive waste. The basalt rock, 2.1.1 found below the surface at Hanford, is basically layers of lava flow formed into fractured rocks as the lava cooled. This type of rock is known to easily crack and crumble.

The Hanford area has already experienced earthquake activity. The Nuclear 3.2.2.3 Regulatory Commission claims it is possible for an earthquake to reach as high as 6.5 on the Richter Scale in this area. Does this sound safe to you?

If all of the waste were to be transported by truck, a shipment of radio- 3.4.2.2 active waste would arrive at Hanford every 90 minutes. Many of the interstates used would carry the waste through Oregon (I-5,84,205 &395), thereby jeopardizing the lives of many people.

It has already been proven that over the past 40 years the region has been affected by water and airborne contamination from Hanford. If the waste is to be transported through Oregon and buried upstream on the Columbia, we must consider the increased risks to our health. Radioactive pollution is known to cause cancer and birth defects. There is also the strong liklihood for our food 3.5.5.1 chain to be contaminated by radiation. This would affect, not only, the people in this area, but would affect many people throughout this country and the world.

Approximately 20% of Oregon's economy is based on the Columbia River. Can 3.2.6.1 we really afford to jeopardize 20% of our economy on a site we already know to be flawed and in a region that is struggling economically?

The U.S. Department of Energy will waste $1.02 billion to 'study' a site that originally ranked last on their list, and a site we already know is 2.1.1 unacceptable.

There is another question that we all must struggle with, and that is the fact that much of the radioactive waste to be stored somewhere is from the continued production of nuclear weapons. It is incomprehensible that we continue to produce more waste from weapons production when our government 2.5.6 does not know how to safely dispose of the 40 years of waste which is presently being stored at Hanford. Continuing to produce more nuclear warheads to meet the demands of our present Administration is not an acceptable solution to world conflicts and continues to haunt the health and security of all Americans.

There are many reasons why Hanford is the poorest choice for the permanent waste repository. I have tried to share a few concerns with you today. My family and friends would ask you to please weigh your decision carefully. We ask you to consider that if you, your children, and grand-children lived in the area surrounding Hanford, would you want it to be the nation's nuclear dumping ground?

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Portland Hearing

HANFORD DEFENSE WASTE ENVIRONMENTAL IMPACT STATEMENT
PUBLIC HEARING

AUDIENCE QUESTIONNAIRE

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1. How did you learn of the hearings?
Newspaper ___ Radio ___ TV ___ Mail ___ Work ___
Word of mouth ___ Other (please specify) Flyer from Hanford Clearinghouse

2. Did you attend one of the Hanford Defense Waste Open Houses in February or March? Yes ___ No X

3. Did you attend one of the Hanford Defense Waste Informational Workshops in May or June? Yes ___ No X

4. Did you have access to a copy of the Draft Environmental Impact Statement or the Summary? Yes ___ No X

44

5. Please rate each of the following:

	Very Good	Good	Fair	Poor
. Hearings moderator Excellent	___	___	___	___
. Procedures for recording comments	X	___	___	___
. Physical arrangements Air cond. / mmer too loud, some voices consequently hard to hear. Blue curtain ridiculous	___	X	___	___
. Process for requesting to comment	___	X	___	___
. Five minute comment period	___ X	___	___	___

6. Please share any additional comments you may have about these hearings.
It would have been helpful to know 1) more about the human listening to the comments - why were they selected? 2) Will they be the ones to process all the info that comes from the hearings? 2) What actually happens to all the comments - what is the process the DOE will go through in responding? i.e, Will what we had to say actually

2.3.2.12

7. Any additional comments about the process of submitting written comments on the Draft Environmental Impact Statement? make a difference!

THANK YOU FOR ATTENDING THIS HEARING AND TAKING THE TIME TO FILL OUT THIS QUESTIONNAIRE.

OVER

0039

I would like to express my fervent hopes & prayers that the DOE will really listen to, read and process what was said & submitted today at the Portland Hearings.

There is little to like about what has happened in the last 40 years at Hanford and certainly the DOE has not added a lot of credibility to the process.

The only way we can get out of this mess is to wake up to the truth that (to quote Einstein) - "With the unleashed power of the atom everything has changed save our modes of thinking & we thus drift toward unparalleled catastrophe." What kind of thinking is the DOE locked into - old mode? Thinking that says its alright not to tell the public the whole truth, allowing procedures not allowed with civilian reactors? (reactor-design)

What is needed is a total shift of thinking where we can see clearly that we are all in this together. What is decided we do at this time with the nuclear genii will effect mankind for eternity. Weaponry, power, waste - they're all inextricably related and must be looked at in their totality - not as isolated units. We must respond with NEW thinking now or we shall all surely perish.

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2.5.5

2.3.1.14

Nancie Quirk
5226 SW Northwood Ave
Portland OR 97201

0040

Inland Empire Regional Conference

RESOLUTION

WHEREAS: the Department of Energy has issued its Draft Environmental Impact Statement on disposal of defense waste currently stored at Hanford: and

WHEREAS: the two basic options are to continue to store the present and future nuclear waste at Hanford or to ship it elsewhere: and

WHEREAS: continued storage at Hanford means the transporting of future defense nuclear waste to Hanford and storage elsewhere means the transporting of existing defense nuclear waste from Hanford; and

WHEREAS: any transportation of radioactive material poses some danger: and

WHEREAS: transportation through urban areas creates more risk than through less densely populated areas; and

WHEREAS: the Draft Environmental Impact Statement indicates that the Department of Energy will make available money to ensure adequate emergency response and that federal support is also available from Federal Emergency Management Administration, Environmental Protection Agency, Food and Drug Administration, and the Nuclear Regulatory Commission; and

WHEREAS: local governments bear the ultimate responsibility for emergency response planning; NOW THEREFORE, IT IS HEREBY RESOLVED BY THE INLAND EMPIRE REGIONAL CONFERENCE:

3.3.2.1 1. The Department of Energy is urged to employ the most favorable technological means to solidify and store hazardous wastes at their point of origin, and

3.4.2.2 2. The Department of Energy is urged to choose that option which creates the least risk and requires the least amount of nationwide transportation of defense waste, and

3.4.2.24 3. The Department of Energy and other federal agencies are urged to make available to local emergency response providers the support promised in the Draft Environmental Impact Statement.

Adopted by the Inland Empire Regional Conference May 21, 1986.

John R. (Jack) Hebner, Chairman

Fifth Floor • City Hall • Spokane, Washington 99201 • Phone (509) 456-2665 / (208) 667-1556

DF 61310

0041

Hanford Nuclear Reservation
Statement by
DON BONKER

My name is Don Bonker, United States Representative from the Third District of Washington State. I am sorry that I cannot be here personally to comment on the Draft Environmental Impact Statement on the disposal of Hanford Defense High-level Nuclear Waste. This issue is very important to all of us and the decision we make on how to deal with the defense waste at Hanford will potentially affect our region for centuries.

I am pleased that the people of this region have become so knowledgeable about this issue. It is my hope that this increased level of knowledge and awareness will help to create better policies and decisions in the future.

In making a decision on what to do with the roughly 43 years of defense nuclear waste already stored at Hanford, the highest priority must be the protection of the health and the environment. Presently, forty-five million gallons of high-level radioactive wastes are stored at Hanford, mostly in 149 aging underground tanks. More than 500,000 gallons have leaked from these tanks, posing a serious threat to the safety of the region. In the wake of these problems, Hanford must be brought into compliance as soon as possible with state and federal standards for nuclear and hazardous wastes. 3.1.4.26 2.4.1.1

I share the concerns of Governor Gardner and the Washington State Advisory Council towards the draft EIS. More attention must be paid to a number of issues, including the geologic instability of the Columbia Basin, Yakima Indian land claims, and compliance with current state and federal laws on nuclear waste management and clean-up. 2.4.2.1 2.4.1.1

The question of military nuclear waste storage at Hanford must also be considered in the context of other nuclear activities at the Reservation. Ongoing production of plutonium for weapons procurement is increasing the amount of high-level defense wastes. Large amounts of low-level wastes have been dumped in open trenches and crypts which permit some radioactive wastes to leach in groundwater supplies. 2.3.1.14 2.2.10

Hanford continues to be a leading candidate for the dubious distinction of the nation's high-level commercial waste repository. In my view, it is dangerous and unwise to make one site the nuclear junkyard for all of the nation's military and commercial nuclear wastes. 2.1.1

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A variety of factors make Hanford a poor site for increased DOD wastes or the commercial waste repository. Given the area's complex geology, high groundwater levels and proximity to the Columbia River, any accident at Hanford could have devastating effects for the entire Northwest. 3.4.3.1

Most experts had ranked Hanford last on the list of potential repository sites, but DOE placed Hanford among the top three. I, personally, believe DOE's decision was based more on politics than scientific merit. It appears that DOE has selected Hanford for site characterization because it is seen as "the path of least resistance," given Hanford's long history of nuclear work. 2.1.1

DOE's action has severly damaged the integrity of the selection process. Strong corrective steps are needed. I support Governor Gardner's recommendation that we temporarily halt the selection process, go back to the characterization selection stage, and review the need for a second repository. I will be working with the other members of the Northwest Congressional delegation to push for the Governor's plan. 2.2.14

While we debate the permanent repository issue, the government should move ahead with the Monitored Retrivable Storage Facility to provide safe storage of nuclear waste until a final solution is in place. In addition, research into promising alternatives to deep geological disposal should be stepped up rather than cut back. 3.3.4.2 3.3.5.2 3.3.1.1

How to safely dispose of the nation's growing high-level nuclear waste is one of the most difficult issues we face today. If we look at it rationally, then we can reach a feasible solution. But it is critical that the facts about the Hanford site take precedence over political expediency. 2.2.1

Don Bonker

46

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U.S.Department of Energy
Richland Operations Office
P.O. Box 550
Richland, WA 99352

Gentlemen,

Thank you for this opportunity for the public to comment regarding the disposal of defense wastes. I am an instructor of Radiation Use & Safety and am interested in this subject.

The selected disposal alternative should be SAFE and PERMANENT. Deep geological disposal is the safest. It should be chosen without regard to cost. 3.3.1.1

Any further pollution of the Columbia River is incomprehensible and ever, possible avenue should be pursued to prevent such pollution. The Columbia River is the second largest river by volume in the United States and must be protected. 3.2.4.1

I have no confidence in inplace stabilization of the wastes. Some tanks leaked in 30 years. It is fair to say that in another 30 years they will all be leaking. Wastes cannot be stabilized in a leaking container. 3.3.2.1

Many of those wastes have extremely long half lifes. Though the liquid may be removed, the wastes will continue to irradiate their containers until the containers disintegrate.

Prevention of migration of radioactive materials to the Columbia River is vitall important. Hundreds of thousands of downstream residents have a stake in safe, permanent disposal. Some city water supplies are fed by the Columbia River. Diluted radioactive waste is not what I want in my drinking water. 3.2.4.1

Sincerely yours,

Nancy Kolb

Nancy Kolb
13221 S.E. Forest St.
Vancouver, WA 98684

043

STATEMENT OF THE HONORABLE LES AuCOIN
HEARING ON DEPARTMENT OF ENERGY DRAFT
ENVIRONMENTAL IMPACT STATEMENT ON
DISPOSAL OF HIGH-LEVEL DEFENSE WASTES
AT HANFORD RESERVATION, WASHINGTON
JULY 10, 1986

I APPRECIATE THE OPPORTUNITY TO COMMENT ON THE DEPARTMENT OF ENERGY'S DRAFT ENVIRONMENTAL IMPACT STATEMENT ON THE DISPOSAL OF HANFORD HIGH-LEVEL DEFENSE WASTES.

FORTY YEARS OF DISPOSAL OF WASTES FROM HANFORD'S DEFENSE OPERATIONS HAVE ALREADY LEFT A BLIGHT ON THE LANDSCAPE OF THE PACIFIC NORTHWEST. SO IT IS DOUBLY IMPORTANT THAT AS YOU NOW CONSIDER FUTURE DISPOSAL PLANS, THAT YOU FULLY EXAMINE PAST AND CURRENT DISPOSAL PRACTICES AT HANFORD THAT WE BELIEVE ARE UNACCEPTABLE. 2.2.1

BECAUSE OF MY CONCERN OVER THE POTENTIALLY DISASTROUS CONSEQUENCES OF CONTINUING WITH THE STATUS QUO AT HANFORD, I PUSHED FOR SEVERAL AMENDMENTS IN THE APPROPRIATIONS COMMITTEE THIS YEAR. I'M HAPPY TO ANNOUNCE HERE TODAY THAT THE COMMITTEE HAS APPROVED MY PLAN WHICH DOES FOUR THINGS:

*EXPRESSES CONGRESSIONAL CONCERN OVER THE CONTINUED DISPOSAL OF MILITARY LIQUID WASTES INTO THE SOIL AT HANFORD; 2.2.10

*GIVES THE DEPARTMENT OF ENERGY 120 DAYS TO DEVELOP A PLAN FOR CEASING THIS PRACTICE AND INSTITUTING ALTERNATIVE DISPOSAL METHODS; 2.2.10

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*REQUIRES AN IMPLEMENTATION SCHEDULE FOR THESE ALTERNATIVES; 2.2.10

*REQUIRES A SCHEDULE FOR COMPLIANCE WITH ALL ENVIRONMENTAL LAWS AND REGULATIONS TO ENSURE THAT THE MILITARY MEETS THE SAME SAFETY STANDARDS THAT COMMERCIAL FACILITIES MUST MEET. 2.4.1.1

I HAVE ALSO BEEN WORKING WITH THE UNITED STATES GEOLOGICAL SURVEY TO PURSUE INDEPENDENT EVALUATIONS OF THE EFFECTS OF MILITARY WASTE DISPOSAL ON WATER QUALITY IN THE COLUMBIA RIVER. THEY HAVE NOW AGREED TO UNDERTAKE A SHORT-TERM SURVEILLANCE STUDY OF THE COLUMBIA RIVER BELOW THE HANFORD RESERVATION DURING THE SUMMER LOW-FLOW PERIODS. I LOOK FORWARD TO REVIEWING THE RESULTS OF THIS STUDY AND URGE DOE TO DO THE SAME. ONE THING THAT IS A CONTINUING SOURCE OF CONCERN TO ME IS THAT THERE HAS NEVER BEEN A FULL-BLOWN STUDY OF THE HYDROLOGY IN THIS AREA JUST FOUR MILES FROM THE COLUMBIA RIVER. 2.2.13 4.1.25

ENERGY SECRETARY HERRINGTON PLEDGED LAST SEPTEMBER "THAT THE DEPARTMENT OF ENERGY WILL BE DEDICATED TO CORRECTING THE ENVIRONMENTAL PROBLEMS WE NOW HAVE AND ESTABLISHING A FRAMEWORK FOR ADDRESSING ENVIRONMENTAL PROBLEMS IN THE FUTURE."

HE ADDED, AND I CANNOT OVEREMPHASIZE THE APPROPRIATENESS OF THIS COMMENT: "WHAT WAS ACCEPTABLE IN 1945 IS NOT ACCEPTABLE IN 1985."

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2.2.1 AND I CAN TELL YOU THAT DOE'S METHODS ARE NOT ACCEPTABLE IN 1986. THE 53 MILLION GALLONS OF MILITARY WASTES WHICH HAVE PILED UP AT HANFORD MUST BE DEALT WITH IN A MANNER THAT PROTECTS THE LIVES, HEALTH, AND ECONOMIC WELL-BEING OF THE PEOPLE OF OUR REGION.

2.2.1 THERE ARE THREE CRITERIA THAT ABSOLUTELY MUST BE MET IN ADDRESSING THIS PROBLEM. FIRST, THE HEALTH AND SAFETY OF THE PEOPLE AND THE REGION MUST BE THE PARAMOUNT CONSIDERATION IN DETERMINING DISPOSAL METHODS AND PROCEDURES.

2.2.7 SECOND, THE STANDARDS FOR DISPOSING OF MILITARY WASTES SHOULD BE AS STRINGENT AS THE STANDARDS FOR DISPOSING OF CIVILIAN WASTES. PLUTONIUM IS PLUTONIUM, WHETHER IT IS GENERATED BY A MILITARY REACTOR OR BY A CIVILIAN REACTOR.

2.2.10 THIRD, YOUR DRAFT EIS RECOMMENDATION TO CONTINUE USING SOIL AS A MEDIUM FOR DUMPING CONTAMINATED WASTES IS UNACCEPTABLE. THIS PRACTICE IS NOT ALLOWED AT CIVILIAN FACILITIES, AND AS WE MEET HERE TODAY IS BEING PHASED OUT AT THE DEPARTMENT'S SAVANNAH RIVER PLANT IN SOUTH CAROLINA. I CANNOT IMAGINE A SINGLE JUSTIFICATION FOR THE DEPARTMENT'S INSISTENCE THAT THIS MISBEGOTTON PRACTICE CONTINUE AT HANFORD, AND WHY IN PARTICULAR YOU SINGLE OUT THE NORTHWEST FOR SUCH SLIPSHOD TREATMENT. SO I'M DELIGHTED TO HAVE THE APPROPRIATIONS COMMITTEE'S SUPPORT FOR STOPPING THIS PRACTICE.

48

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IT IS CLEAR THAT THE GRAVITY OF THIS PROBLEM REQUIRES THE BEST AVAILABLE SCIENTIFIC AND TECHNICAL RESOURCES. THE SAFETY AND HEALTH OF PRESENT AND FUTURE GENERATIONS OF NORTHWEST FAMILIES DEMANDS NOTHING LESS. WITH A HALF-LIFE OF 24,000 YEARS, 2.2.1 PLUTONIUM IS AN ELEMENT THAT CANNOT BE ALLOWED TO RISE FROM ITS GRAVE AND HAUNT FUTURE GENERATIONS IN OUR WINDS AND WATERWAYS.

IF THE LESSON OF SELECTING A REPOSITORY SITE FOR DISPOSAL OF CIVILIAN NUCLEAR WASTES IS NOW TO BE APPLIED TO THE 2.2.1 DEPARTMENT'S DECISION-MAKING PROCESS FOR DISPOSAL OF MILITARY WASTES, THEN THE MERIT-BASED CRITERION, SCIENTIFIC EVIDENCE, AND THAT IMMEASURABLE ELEMENT OF PUBLIC CONFIDENCE, WILL BE SORELY MISSING.

TOO MANY YEARS OF CARELESS DISPOSAL OF WASTES IN SHALLOW MEDIUM HAVE, AND WILL CONTINUE TO RESULT IN CONTAMINATION OF GROUNDWATER SOURCES AND ULTIMATELY THE COLUMBIA RIVER. FAILURE TO ADDRESS THIS FUNDAMENTAL PROBLEM WILL RESULT IN AN 3.2.4.1 ENVIRONMENTAL CATASTROPHE. IN ADDITION, OURS IS A REGION OF THE COUNTRY WHERE PEOPLE HAVE BEEN WORKING TOGETHER FOR YEARS TO REBUILD OUR ECONOMY AND TO TAKE ADVANTAGE OF ONE OF THE GREATEST WATERWAYS OF THE WORLD: TO INCREASE TRADE AND VITAL FISHERIES RESOURCES. AND THE PEOPLE OF THE NORTHWEST CONSIDER IT A SLAP IN THE FACE TO SEE THE DEPARTMENT AND THE FEDERAL

Who I Represent

3.2.4.1 GOVERNMENT NOW STUBBORNLY ADHERING TO POLICIES WHICH COULD DEVASTATE THE COLUMBIA RIVER FOR YEARS AND YEARS TO COME. THE PEOPLE OF THE NORTHWEST DESERVE YOUR BEST ENERGIES AND SCIENTIFIC ANALYSIS.

WORKING WITH AND FOR THE PEOPLE I REPRESENT, I DO NOT INTEND TO ALLOW THE DEPARTMENT OF ENERGY TO PLAY RUSSIAN ROULETTE WITH THE NATURAL RESOURCES WE'VE BEEN BLESSED WITH, RESOURCES ON WHICH OUR LIVES AND LIVELIHOODS DEPEND.

Written testimony to accompany hearing presentation
To the US Department of Energy, 10 July 1986 Bonneville Power Administration Auditorium

Dr. Leonard Palmer, Associate Professor of Geology
Portland State University, Portland, Oregon 97207, (503) 229 3022

Portland City Council representative delegate to the Citizens Forum to the DOE for Defense Waste Draft Environmental Impact Statement. (this is not an official statement of PSU)

DOE WASTE SITE SELECTION PROCESS

FUNDAMENTAL ERROR IN DECISION PROCESS SHOWN BY FAILURE TO RECOGNIZE ANISOTROPY OF HANFORD EARTH MATERIALS

Persistent failure in the decision making processes of the DOE regarding nuclear waste is documented during at least the past ten years. The failure to recognize the fundamental properties of earth materials is evident from accidents and failures in disposal performance at Hanford and from absence of alternate nuclear waste site selection investigations. 2.3.1.12

The DOE has not recognized the fundamental need to select waste disposal sites in earth materials with the most uniform properties and lowest permeability to water flow. Non uniform properties of Basalts and sediments at Hanford have been ignored and compared to none of the available alternate options. The error appears to be an inability, unwillingness or failure at the decision making level to incorporate into the decision making process the geological expertise to recognize the physical properties of the various available earth materials and their effects upon the performance of the waste disposal to the land and water quality. 2.1.1

CASUAL DUMPING AND SPILLING OF NUCLEAR WASTE

The result, as described in appendix V of the Draft EIS and in data presented by the Washington State Nuclear Waste board, is leaking tanks and contaminated soils and sedimentary ground water aquifers at Hanford as follows:

***Over 52 million gallons of solid tank waste and over 27 million gallons of liquid with over 474 million curies in 149 single wall tanks (about 40% leaking) and 20 double wall tanks.**

***over 5 million cu. yd. (1 billion gal.) of contaminated soil with over 139,000 curies and 437 pounds of plutonium In 36 ditches and ponds; 294 cribs, trenches, french drains and "unplanned releases" and 10 "reverse wells" which were used to pump plutonium-239-240, strauntium-90 and cesium-137 into the ground water. *The 216-Z-9 trench required treatment due to concern about "criticality"!** p. V 17-19

EXISTING DEFENSE WASTE EXCEEDS COMMERCIAL WASTE VOLUME

Over 62% of all high-level defense waste in the country is dumped at Hanford in the above conditions. Hanford "defense" waste in tanks would fill about 4 repositories (at 70,000 yards each, with no commercial waste storage) not including contaminated soil and water materials.

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* **Existing "defense" waste at Hanford overshadows the need for a commercial repository because of the great volume and fluid character of the waste (compared to the commercial low volume metal-clad solid waste.)** * 2.3.1.3

The geologic material under Hanford is Columbia River Basalt overlaid by river and flood sediments. The presence of highly variable water flow properties in the basalt and sediment make it non-homogeneous and unsuitable for a disposal or repository site. 2.1.1

Just as flow of water through swiss cheese would be difficult to predict, so the Columbia River Basalt and the overlying river channel sediments have many channels and variations in their structure and flow properties. Rock units with the properties of a diaper are more appropriate to waste disposal, with the ability to provide absorption and containment.

Many preferable geological units exist with homogeneous rocks properties, low ground water flow rates and low value for farming or other land use. Granite, shale, volcanic tuff and salt have been recognized candidate materials. Basalt and stream sediment, except at Hanford, have not been proposed as a suitable rock material for nuclear waste disposal. Why, therefore, is the DOE continuing to propose Hanford as a disposal site? 3.3.1.1

The DEIS proposed disposal of tank waste in a repository appears to be impossible due to the volume of defense wastes. The alternate "in place" disposal, by covering the tanks and contaminated soils with 5 feet of fine soil as the only barrier to water infiltration, is unlikely to stay in place as a functional barrier due to winds and range fires on the site and probable climate change. The comparative costs presented in the DEIS are only for immediate transport and disposal costs with no consideration of long term risks or land use losses. No justification or alternate options are given, for assuming "dedication" of the Hanford site for all time. 3.5.1.100 3.2.6.7 2.3.1.2

Because of the seriousness of the existing "defense" waste problems at Hanford and the certainty of some level of radioactive and chemical contamination of the water supply of the Columbia River valley (if the law of gravity persists), the people of Oregon can not support the proposed 5 foot fine-soil coverup. It is too much to impose the majority of all nuclear waste in the country into the fresh water aquifers of the northwest without clean up. Almost any state of the art hazardous waste disposal requirements would far exceed the plans presented in this DEIS for these most serious of hazardous risk materials. 3.3.2.1

2.5.5 **The failure to recognize the availability of preferable alternate disposal sites and the history of repeated failures at the Hanford site demonstrate a failing in judgment of the DOE waste management process. Geological and engineering expertise exist within the DOE to provide such input, yet has not been demonstrated.**

A comparable example of management insensitive to an essential technical input was evident in the recent space shuttle disaster when engineering warnings regarding the function of booster rocket seals were ignored.

2.2.13 **A great need for revision in the nuclear waste management process of DOE with appropriate external independent review by state, federal and private agencies is quite obvious.**

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QUESTIONS FOR DOE

1. Why were no alternate site selection studies done to find whether more suitable sites exist with lower water contamination potential ? 2.3.1.2

2. Why should present and future waste continue to be stored at the Hanford site in spite of the history failure of the site to prevent radioactive and chemical soil and water contamination? 2.1.1

3. Why were the "LaGrande-Chewaukin" fault structures which traverse the Hanford site not shown on the Structure Map, Figure 4.5? Why aren't the thrust faults on the Hanford site shown on the DEIS fault map? 3.2.2.6

4. What will prevent direct radioactive and chemical contamination of the Columbia River aquifers and water system if the 5 foot (1.5 meter) "fine soil" of the on site disposal plan were to be eroded and removed by wind, water, or other process? 3.5.1.90

5. What BACKUP PROTECTION is provided for on site disposal plans if the "fine soil" barrier should be removed? 3.5.1.90

6. What is to prevent the existing spilled radioactive and chemical tank an trench waste from entering the ground water by gravitational downward movement? What other direction could they go? 3.5.3.9

7. What is the chemical content of the contaminants associated with the radioactive waste and what are the potential risks to organisms if they leak to the environment? 3.1.6.1

8. Why were the more typical designs for waste disposal which utilize water containment and control of potential leachate drainage not evaluated? 3.3.5.2

9. What independent state, federal or private agencies are providing technical review of the DEIS proposal? Could copies of their evaluations be provided? 2.3.2.9

10. What intermediate alternate solutions can be presented? Those alternatives presented are extreme high cost and low cost possibilities with none of the type of solutions normal for hazardous waste disposal site selection. 3.3.5.2

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Dr. Leonard Palmer, Associate Professor of Geology
Portland State University, Portland, Oregon 97207, (503) 229 3022

REVIEW:

DEPARTMENT OF ENERGY
DOE/EIS-0113 VOLUMES 1 - 3
DRAFT ENVIRONMENTAL IMPACT STATEMENT

DISPOSAL OF HANFORD DEFENSE HIGH-LEVEL, TRANSURANIC AND TANK WASTES
HANFORD SITE, RICHLAND, WASHINGTON
MARCH 1986

Major Issues Identified: 1./ Not an EIS
2./ Errors and omissions in DEIS
3./ Value and Cost not differentiated

****

1.
DEIS Appears to have MISSING MAJOR ELEMENTS when compared to the list of topics REQUIRED BY THE EPA GUIDELINES. A partial list of some of the major omissions are as follows:

(numbers refer to paragraphs in the EPA guidelines)

1a I.4. Should be "not merely justifications for proposed funding or action; rather they are to be detailed presentations of the environmental impact . . . in light of environmental considerations."
(DEIS shows conditions and plans - assumes no other options are available, no other use for site, see 3.4.1.6 p.3.40) 2.3.1.2

1b II.3. ". . . requires a description . . . total effected area -- however extensive it may be."
(DEIS evaluates only Hanford site, not the total aquifer or drainage system.) 2.3.1.2

1c II.6 "Point (3) requires the responsible agency to study, develop and describe appropriate alternatives to the recommended courses of action . . ." " . . . in order not to foreclose prematurely options which might have less detrimental effects." 2.3.1.2
(DEIS shows no alternate site consideration -
NO COMPARISON OF ALTERNATE
* site
* comparison of site use
for waste
for farming, etc.
* in-place disposal options
* off-site disposal options
* clean up of existing (plutonium, strountium-90 etc.) spills options

52

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1d II.8 "Point (4) requires and assessment of the . . . short-term . . . and maintenance and enhancement of long-term environmental productivity."
Did not identify the major environmental VALUES:

value of defense material
(need for more bombs???)
value of water system (Columbia River) 2.5.6
value of farm use of the land
negative value of contamination

1e II.10. "Point (5) requires description of any irreversible and irretrievable commitment of resources." 2.3.1.2
(DEIS has not addressed this issue)

****

Apparent flaws in the data presented

2. In addition to the major omissions, the DEIS contains flaws in contained data. It contains errors or omissions in presentation of essential geological fault data. The DEIS also fails to compare the proposed action to established procedures (EPA and State radioactive and toxic waste procedures and guidelines). Also, assumptions of climate stability and non migration of contaminants appears to be unproven. 2.4.1.1

2a It appears that the existing practices at Hanford and the proposed procedures fall far short of meeting the present criteria used for disposal of far less hazardous waste. 2.2.1

2b DEIS page 4.11, Figure 4.5. Generalized Geologic Structure Map of the Central Plateau (DOE 1984)
Map lists "Fault" on the legend but has omitted all mapped and known faults in the Hanford area and most others as shown on the WPPSS (Washington Public Power Supply System, PSAR, Figure 2.5-3, Regional Tectonic Elements Map) 4.2.10
Figures in the DEIS are cropped to show only the top of the ground water aquifer, thus exaggerating the apparent distance from the contaminant plume to the water. This is not inaccurate but may be misleading.

2c Illustrations of contamination plumes (see pages V.12 - V.14, Figure V.7, V.8, V.21. & Figure 9) and the proposed "in place" disposal imply that no contamination has or will exceeded the limits of the plume "characterized".
Figure 8 clearly shows migration of the plume and the isolated nature of the residual cloud shaped contamination areas between 1956 and 1966. The migration of the radioactive material appears to have been by gravity flow as well as by "failed well casing". The contamination appears to concentrate in fine grained silty layers. 3.5.2.44

3.5.2.44

2d The changes in distribution of contaminants shows 1/ that the contaminants have migrated, 2/ that contamination has passed areas where no contamination is now found in the soil (between the plotted areas of contamination and 3/ that contamination may have extended to the ground water and been removed before detection. It is also possible that, 4/ the "characterization" data has considerable inaccuracy.

In either case, contamination cannot be proven to be contained by the "in place" design of Figure 9.

3.5.6.1

2e Climate stability providing continuation of present arid conditions are essential requirements for the proposed "in-place" design (with no events greater than double present average rainfall). On a long term basis this is not likely nor verifiable. Past climatic fluctuations as shown by palynological and marine stratigraphic data indicate major fluctuations in the past (Holocene time).

****

Environmental Values and Costs are not differentiated

2.3.1.2

The major problems with the DEIS are the failure to recognize the major environmental values, and the uncontested and untested assumption of continuation of the existing precedent for nuclear processing and disposal use of the Hanford site without site suitability comparative analysis.

3.2.6.2

3a "Value" and "cost" are not differentiated nor evaluated. Water has value but no cost (only the cost of delivery). The value of the Columbia River and the adjacent sedimentary basins to the livelihood of the region are very great but are not addressed. The value and cost of loss of purity of the Columbia River is not addressed.

3.2.6.8

In this DEIS, cost is calculated in the short term as dollars and risk to lives in the disposal process.

No comparison is made of the potential long term productivity of the water and soil of the area, for example, as an agricultural site (and the number of lives which could be supported in the area) compared to the long term productivity and risk as a hazardous and nuclear waste site.

3.2.6.2

3b Comparison of the long term cultural value of the special soil and drainage conditions in the Pasco Basin (Hanford) to the areas less suitable for agriculture is not evaluated. Economic geography analyses should provide greater recognition of the comparison to other geological sites most probably much better suited for waste disposal and much less suitable for agriculture and productive land use.

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3.5.2.44

3c Risk to the water supply of Oregon communities including Portland has not been evaluated. The extremely low water table at Boardman and potential for infiltration from the Columbia River has not been addressed. In the event of Bull Run water problems Portland has the option of using the newly developed Portland well field as a back up supply, yet the drawdown of aquifers in Portland could result in depressed water tables like those at Boardman. Infiltration of Columbia River water into the Portland well field aquifers is a real possibility under that easily possible condition.

Edward Tenny
City of Portland
City Water Lt.

PRESENTATION TO DEPARTMENT OF ENERGY

PUBLIC HEARING ON HANFORD DEFENSE WASTE DISPOSAL DRAFT EIS

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JULY 10, 1986

I AM ED TENNY, ADMINISTRATOR OF THE PORTLAND BUREAU OF WATER
3.2.4.1 WORKS. WE ARE THE LARGEST PURVEYOR OF DRINKING WATER IN THE STATE OF OREGON, SERVING APPROXIMATELY 700,000 CUSTOMERS--ABOUT ONE-THIRD OF OREGON'S POPULATION. WE ARE VERY CONCERNED ABOUT ANY PROPOSAL FOR LONG-TERM NUCLEAR WASTE DISPOSAL AT HANFORD DUE TO THE POTENTIAL THREAT TO THE REGION'S WATER RESOURCES.

HISTORICALLY, THE PORTLAND WATER SUPPLY CONSISTED OF THE BULL RUN WATERSHED IN THE CASCADE MOUNTAINS. IN THE EARLY 1970s, THE WATER BUREAU EVALUATED SEVERAL ALTERNATIVES FOR INCREASING THE CAPACITY AND RELIABILITY OF THE WATER SUPPLY SYSTEM, IN ORDER TO MEET GROWING FUTURE NEEDS AND TO PROVIDE A SUPPLY TO BACK UP OUR SURFACE WATERSHED SOURCE. AT THAT TIME, THE ADDITION OF GROUNDWATER FROM WELLFIELDS LOCATED ALONG THE SOUTH SHORE OF THE COLUMBIA RIVER WAS FOUND TO BE THE MOST EFFECTIVE APPROACH. THIS OPTION PROVIDED NOT ONLY A SAFE, AMPLE, RELIABLE, AND COST-EFFECTIVE WATER SUPPLY BUT ALSO PROVIDED A SECONDARY SUPPLY WHICH WAS TOTALLY INDEPENDENT OF THE EXISTING BULL RUN

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SUPPLY. OUR CUSTOMERS HAVE INVESTED OVER $30 MILLION IN THE DEVELOPMENT OF THIS PRECIOUS GROUNDWATER RESOURCE.

WITH THE RECENT COMPLETION OF MAJOR PORTIONS OF OUR GROUNDWATER PROJECT, THE COMBINATION OF THE BULL RUN WATERSHED AND GROUNDWATER SUPPLIES NOW PROVIDE A CAPACITY OF APPROXIMATELY 325 MILLION GALLONS OF WATER PER DAY. HOWEVER, BASED ON REGIONAL POPULATION PROJECTIONS INTO THE NEXT CENTURY, IT APPEARS LIKELY THAT, BY THE YEAR 2050, WATER DEMANDS FOR OUR AREA MAY BE AS HIGH AS 500 MILLION GALLONS PER DAY. IT IS ONLY PRUDENT THAT THE BASIC PHILOSPHY OF MULTIPLICITY OF SOURCES BE CONTINUED IN THE FUTURE AS GROWING WATER DEMANDS NECESSITATE ADDITIONAL SUPPLY. CERTAINLY, THE COLUMBIA RIVER IS A LIKELY SOURCE TO MEET THESE FUTURE WATER NEEDS.

ALTHOUGH WATER DEMANDS BEYOND THE YEAR 2050 HAVE NOT BEEN PROJECTED, IT IS REASONABLE TO ASSUME THAT TREATED COLUMBIA RIVER WATER WILL BE A NEEDED SOURCE OF DOMESTIC DRINKING WATER WITHIN THE ACTIVE LIFETIME OF THE WASTES TO BE STORED AT HANFORD. CONTAMINATION OF THE COLUMBIA RIVER BY DEFENSE WASTES LEAKING FROM HANFORD'S UNDERGROUND STORAGE TANKS WOULD, AT BEST, FORECLOSE THE OPTION OF USING THE COLUMBIA RIVER AS A POTENTIAL FUTURE SUPPLY BUT COULD ALSO THREATEN THE LONG-TERM VIABILITY OF THE EXISTING GROUNDWATER SUPPLY BECAUSE OF POSSIBLE INFLUENCES FROM THE COLUMBIA RIVER. 3.2.4.1

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IN LIGHT OF THE SIGNIFICANT POTENTIAL THREAT THAT NUCLEAR WASTE DISPOSAL POSES TO THE ENVIRONMENT AND PARTICULARLY TO THE WATER RESOURCES DOWNSTREAM OF THE HANFORD SITE, IT SEEMS ONLY REASONABLE THAT DOE FUND AN INDEPENDENT ANALYSIS OF POTENTIAL ENVIRONMENTAL AND ECONOMIC IMPACTS TO AREAS THAT MAY BE IMPACTED BY THE FACILITY WITHIN THE FUTURE LIFE OF THE WASTES. EXISTING WATER WORKS FACILITIES AND FUTURE WATER NEEDS OF THE PORTLAND METROPOLITAN AREA MUST BE MADE A PART OF SUCH RESEARCH. YOU CAN BE ASSURED OF OUR FULL COOPERATION IN SUCH A PROJECT, SINCE WE ARE ANXIOUS TO BE DIRECTLY INVOLVED IN YOUR ONGOING ENVIRONMENTAL IMPACT STUDY PROCESS. 2.3.2.9

I WOULD ALSO LIKE TO BRIEFLY COMMENT THAT WHATEVER METHOD OF DISPOSAL IS SELECTED, BE IT AT HANFORD OR ANY OTHER LOCATION, THE DISPOSAL FACILITY MUST CERTAINLY ADHERE TO CIVILIAN STANDARDS FOR HAZARDOUS WASTE DISPOSAL. IT IS DISTRESSING TO KNOW THAT PAST WASTE DISPOSAL PRACTICES AT HANFORD HAVE RESULTED IN ENVIRONMENTAL CONTAMINATION THAT SIMPLY WOULD NOT BE TOLERATED BY PRIVATE INDUSTRY. IN ADDITION, ALTHOUGH I WILL NOT CLAIM TO BE AN EXPERT ON GEOLOGY OR HAZARDOUS WASTE DISPOSAL, IT APPEARS TO BE VERY UNWISE TO ATTEMPT TO STORE THESE WASTES IN THE POROUS AND COMPLEX GEOLOGICAL FORMATIONS OF THE HANFORD AREA. GIVEN THE LIQUID NATURE OF THE WASTES IN QUESTION, THEIR EXTREMELY LONG ACTIVE LIVES, AND THE PROPENSITY OF LIQUIDS TO FLOW DOWNHILL, IT WOULD NOT BE SURPRISING TO FIND THAT AT SOME TIME IN THE FUTURE, THESE MATERIALS ARE ESCAPING FROM 2.2.7 2.1.1

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THE HANFORD SITE. IT SEEMS THAT OTHER ALTERNATIVES, SUCH AS A SITE WITH LESS POROUS AND MORE PREDICTABLE GEOLOGY OR SOLIDIFICATION OF THE WASTE, COULD OFFER A FAR GREATER DEGREE OF LONG-TERM CONTAINMENT AND STABILITY. THUS, WE ENCOURAGE YOU TO CONSIDER A WIDER RANGE OF DISPOSAL OPTIONS THAN HAS BEEN CONSIDERED TO DATE. 2.1.1 3.3.5.2

IN SUMMARY, THE PORTLAND WATER BUREAU IS STRONGLY COMMITTED TO PRESERVATION OF THE REGION'S VARIED AND COMPLEX WATER RESOURCES. THE COLUMBIA RIVER SYSTEM IS THE HEART OF OUR REGION'S WATER RESOURCE. THE DISPOSAL OF NUCLEAR WASTES AT HANFORD APPEARS TO HAVE THE POTENTIAL TO IMPACT PERMANENTLY THE REGION'S MOST VALUABLE WATER RESOURCES. NUCLEAR CONTAMINATION OF THE COLUMBIA RIVER WOULD NOT ONLY LIMIT AVAILABLE OPTIONS FOR FUTURE WATER SUPPLY SOURCES FOR THE PORTLAND AREA, BUT MAY ALSO THREATEN THE LONG-TERM VIABILITY OF EXISTING WATER SUPPLIES WHICH ARE INFLUENCED BY THE RIVER. WE WOULD BE ESPECIALLY PLEASED TO WORK IN COOPERATION WITH DOE TO FURTHER INVESTIGATE POTENTIAL ENVIRONMENTAL AND ECONOMIC IMPACTS TO WATER RESOURCES DOWNSTREAM OF THE HANFORD SITE. 3.2.4.1

THANK YOU VERY MUCH FOR THE OPPORTUNITY TO TESTIFY TODAY.

CITY OF
PORTLAND, OREGON
BUREAU OF WATER WORKS

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July 10, 1986

FOR IMMEDIATE RELEASE

NEIL GOLDSCHMIDT DEMANDS IMMEDIATE COMMITMENT TO HANFORD CLEANUP

Oregon gubernatorial candidate Neil Goldschmidt called today for a stringent waste cleanup plan at Hanford that would begin in 1987, not 1994.

Goldschmidt's testimony was delivered by Mildred Schwab, Co-chair of the Neil Goldschmidt for Governor Multnomah County Committee, at a public hearing held by the United States Department of Energy (US DOE) on its draft environmental impact statement (DEIS). The DEIS examines various alternatives for cleaning up military wastes stored for the past 40 years at Hanford.

56

2.2.1
2.2.7

In his testimony, Goldschmidt demanded a cleanup plan that would include a number of US DOE commitments. He asked that the cleanup plan (1) not add to the waste burden borne by the Columbia River and surrounding soil for the past 40 years; (2) comply with the same federal standards for private sector waste management; and (3), be initiated in 1987 and not be allowed to "become lost in the bowels of the US DOE."

2.2.1

Goldschmidt criticized the US DOE for being vague on the need to comply with federal environmental law in disposing of defense wastes. "To consider military high-level waste any differently in terms of risk than commercial high-level waste would be the height of inconsistency," he said.

2.4.1.1

Goldschmidt also stressed the need for the US DOE to implement a cleanup plan prior to a 1994 date discussed in the DEIS. "The time for action is now. As your own (US DOE) 1980 assessment of long-term risks clearly warns: '. . . it may be more difficult, dangerous, and costly to remove the waste in the future than it is now.'"

2.2.1

"To alleviate our concerns and to demonstrate good faith, we want to see a Fiscal Year 1988 budget request for a pilot Hanford Waste Vitrification Plant," Goldschmidt said. The Vitrification plant is necessary to prepare the waste no matter which disposal alternative is picked.

3.1.8.9

-more-

Goldschmidt said a minimum commitment of $40 million for design, engineering and preliminary construction of such a facility would be a sign of good faith on the part of the US DOE.

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TESTIMONY OF
NEIL GOLDSCHMIDT

On The

Cleanup of Military Wastes
At Hanford

July 10, 1986

I appreciate the opportunity to present my views on the urgency to clean up the existing defense wastes at Hanford.

Hanford's fate as a permanent nuclear waste dump and the final decision on cleaning up defense wastes will affect Oregonians for generations to come.

As you have heard throughout the day, Oregonians cherish actions over words. With the completion of the environmental impact statement, we expect the Department of Energy to kick into high gear to implement a cleanup plan that provides the most effective long-term protection of public health, livelihoods, and the environment. 2.2.1

We want to see work plans, not calls for more research; we want line-item budgets for clean-up facilities, not proposals for further studies; we want the production of paper to stop and the cleanup of waste to begin. For a region that has, in the name of national security, borne the risk of improperly stored military wastes for forty years, that is not too much to ask. 2.2.1

As a neighbor and as the agency responsible for the cleanup of military waste, the department should understand Oregonians' anxiety about the threat to public health, to livelihood, and to the environment posed by military waste. We also expect the department to share our deep commitment to the long-term protection of those values. 3.2.4.1

We expect the department's recommended cleanup plan and accompanying budget to be based on what will best serve Portland-Vancouver, not Gramm-Rudman. If that is not the case, then Oregonians, other Northwest residents, and their elected officials will take steps to ensure that protection is based on concern for public health and the environment not on political expediency. 2.2.1

In framing a stringent cleanup plan, we seek a commitment from the department:

2.2.1 o To stop adding to the burden already borne by the Columbia River and the soil from 40 years of high-level defense waste disposal.

2.2.7 o To operate a defense waste management plan in compliance with the same federal standards that govern private sector waste management practices.

2.2.9 o To prevent the defense waste cleanup plan from disappearing into the bureaucracy after these hearings and to provide a tangible FY88 budget commitment to cleanup, not further containment, of high-level wastes.

Specific comments on how the department should meet its commitment follow.

1. TO STOP ADDING TO THE BURDEN ALREADY BORNE BY THE COLUMBIA RIVER AND TO THE SOIL FROM 40 YEARS OF HIGH-LEVEL DEFENSE WASTE DISPOSAL

No "as-is" surface disposal of high-level waste or sludge should be allowed. Toward that end, the department must stop using an arbitrary definition of high-level military waste. It fosters public mistrust when the department defines high-level military waste according to the process it comes from rather than using EPA's definition based on concentrations, or some other objective criterion, such as energy emitted per gram. The Nuclear Waste Policy Act mandate for deep geologic disposal of all commercial high-level waste (HLW) must apply equally to defense waste. Therefore, the only cleanup option consistent with the intent of Congress is the cleanup and deep geologic disposal of all military high-level wastes and sludges now in near-surface tanks and in trenches. 3.3.4.1 2.2.7

To consider military high-level waste any differently in terms of risk than commercial high-level waste would be the height of inconsistency. Where is the wisdom in spending billions of dollars to build a permanent repository some 3000 feet underground, while leaving equally hazardous military waste in tanks and trenches a stone's throw from the Columbia River. 2.2.7

Reliance on grouting (mixing waste with concrete) of high-level wastes followed by disposal in shallow burial pits is of questionable long-term protection of public health and the environment. The department's own Savannah River Plant waste management plan final EIS estimates grouting will release into the soil 30 times more plutonium 238, 20 million times more iodine 129, and 6 million times more technetium 99 than all planned routine discharges from Savannah River's two reprocessing facilities from 1954 to 1976. 3.1.8.1

046

Given the risks from grouting of high-level wastes, it is puzzling why no mention of calcination of high-level wastes is mentioned anywhere by the department as a viable cleanup option. By converting wastes to powder, calcinated wastes are well-suited to glassification for deep geologic burial. It also eliminates the need for grouting of wastes. 3.3.2.2

True, calcination is a better investment as a front-end production change; i.e., to eliminate the future production of liquid wastes that now end up stored in tanks and trenches. But its potential application to existing in-place waste has been totally neglected in the DEIS. Such a unique and proven disposal alternative deserves serious examination. 3.3.2.2

2. TO OPERATE A DEFENSE WASTE MANAGEMENT PLAN IN COMPLIANCE WITH THE SAME FEDERAL STANDARDS THAT GOVERN PRIVATE SECTOR WASTE MANAGEMENT PRACTICES

Double standards are indefensible. The nation's cradle-to-grave hazardous waste protection law--the Resource Conservation and Recovery Act, or RCRA--applies to federal agency waste management and disposal practices. 2.4.1.9

Statements in the DEIS on compliance with federal law are vague and conflicting. The DEIS does not address the requirements and the intent of federal environmental law. Any attempt to seek exemptions of defense wastes in matters of environmental safety, measured in geologic time, cannot be justified. 2.4.1.1

The fact that high-level military waste is indeed a mixture of hazardous and radioactive materials means that, under RCRA regulations, landfilling or shallow pond disposal is prohibited. 2.4.1.9

What we first need from the Department of Energy is a schedule to bring current waste disposal practices into compliance with EPA and Washington state health and safety standards. Concurrently, the department must fully inventory and identify hazards of waste that has been dumped in soil over the past 40 years. Knowing what is there, and how much, is essential to its proper cleanup. 2.4.1.1 3.1.1.1

The department must commit to a date to stop routine dumping into the soil of low and intermediate toxic and radioactive waste liquids from PUREX, the Hanford N-Reactor and the high-level waste tank farms. Such disposal practice is outmoded and dangerous. The department has entered into a Memorandum of Understanding with South Carolina to stop such soil dumping by 1988. A similiar agreement is sought by Washington state. To date, the department has been reluctant to negotiate. 2.2.10

Certainly, the department's FY87 budget request of $1.6 million for two more surface disposal ponds is not a sign of a commitment to safe and sound disposal of high-level wastes. 2.5.5

3. TO PREVENT THE DEFENSE WASTE CLEANUP PLAN FROM DISAPPEARING INTO THE BUREAUCRACY AFTER THESE HEARINGS. TO PROVIDE A TANGIBLE FY88 BUDGET COMMITMENT TO CLEANUP, NOT FURTHER CONTAINMENT

We want a gesture of good faith from the department that a cleanup plan will be implemented and funded prior to the

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046

0046

3.3.1.1 1994 date discussed in the DEIS, and that the deep geologic disposal option for high-level waste will be pursued in earnest.

The time for action is now. As DOE's own 1980 assessment of long-term risks clearly warns: "If eventual retrieval [from tanks] of the waste for permanent disposal is undertaken, the cost could well rise with the passage of years...Thus, 2.2.1 it may be more difficult, dangerous, and costly to remove the waste in the future than it is now." (1)

3.3.1.2 The department's FY87 defense nuclear waste construction budget request of just under $19 million scarcely compares with the department's $153 million construction budget request at Savannah River. The department's Hanford construction budget is "mainly to demonstrate in-place disposal of compromised single-shell HLW tanks."(2) Statements like this are another sign that the department's intentions are already in place.

To alleviate our concerns and to demonstrate good faith, we want to see a FY88 budget request for a pilot Hanford Waste Vitrification Plant (HWVP). Since a vitrification plant is 3.1.8.9 an essential component of both the DEIS reference alternative and the DEIS repository alternative--the department would be prudent to begin construction of a pilot facility in 1987. The Northwest will not tolerate a 10-year struggle to fund such a facility as the state of South Carolina was compelled to do.

A minimum commitment of $40 million for design, engineering, and preliminary construction of a vitrification plant would 3.1.8.9 provide a necessary sign of good faith by the department. The plant's similiarities to the existing Savannah River vitrification plant allow for an expedited construction schedule.

Conversely, to fund a grouting facility for surface disposal rather than a vitrification plant would be a clear indication that the department is wedded to in-place, near-surface 2.2.1 disposal. It would offer a clear sign that cost considerations are placed above the long-term protection of public health and the environment in the department's plans.

Finally, we seek a pledge from the department to stick to its commitment to produce a final EIS by mid-1987. We do not want to see the department's doors slam shut after a 2.2.1 brief exposure to public scrutiny. The momentum for cleanup action and the public expectation for such are simply too great to become lost in the bowels of the US Department of Energy. Forty years is long enough to wait.

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WM DIVISION 0046

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2. U.S. Department of Energy, Congressional Budget Request, Atomic Defense Activities , Vol. I, pp. 563 DOE/MA-0064/4, February 1986.

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JUL 14 1986
WM DIVISION 0046

09

A few years ago, I read in the Oregonian that radioactive rabbit droppings and pocket gopher bones had been found 10 miles from the Hanford site, and a radioactive eagle's nest 25 miles from the site. Parts of a living system cannot be isolated from other parts. Although Chernobyl is very far away from Portland, rainwater in Portland was one of the first places in the U.S. where radiation from Chernobyl was measured.

It is appropriate that radiation showed up in this region first, for the Northwest has already played a large role in this country's nuclear development.

One legacy of that role is the Hanford N-Plant, the oldest plant in the country. Like Chernobyl, it is a graphite reactor. But while Chernobyl did have a containment building, Hanford has none, and is built to withstand only 1/5 as much pressure as the Chernobyl plant was.[1] The Hanford design is obsolete and dangerous, but continues to operate.

The Purex plutonium plant is another legacy, one of the major sources of plutonium for U.S. nuclear bombs. William Lawless, a former engineer and waste manager for the U.S. Department of Energy, says that the soil of the Hanford reservation poses the most serious plutonium contamination problem of any site in the nation.[2] Today the Purex plant routinely discharges about 7.5 times more plutonium than the infamous Rocky Flants plutonium plant.[3] The soil throughout the Hanford site contains more plutonium per square acre, 84 mcg., than the city of Nagasaki, less than a mile from ground zero, immediately after it was bombed. And plutonium levels in the soil in the cities of Richland and Sunnyside approach Nagasaki's.[4]

There is another parallel. The U.S.S.R. has had not one, but two major nuclear accidents: at Chernobyl, and one in 1958 at a remote nuclear waste site and plutonium plant at Kyshtym, in the Ural Mountains. At Kyshtym, as at Hanford, there were many small leaks, contaminating the Techa River, and finally one huge explosion, which rendered several hundred thousand square miles of land permanently uninhabitable.[5] And a Russian defector who had been an engineer supervising construction at Kyshtym told Science Magazine in '83 that that plant was an exact, pipe-by-pipe copy of the Purex plant.[6] But Purex goes on, day after day, producing weapons-grade plutonium.

A few years ago, Russia stopped releasing the statisticw for life expectancy and infant mortality, for those figures had begun worsening. Last year when Dr. Carl Johnson, one of the fathers of nuclear science, was in Portland, I asked him what seems a wild question-- whether it was possible that the drop in Soviet life expectancy could be related to the accident at Kyshtym. He replied that yes, it was possible. Premature aging is one of the little-known side effects of radiation exposure that have been revealed in a few studies which were abruptly discontinued, and then buried from public view. 10-20 years would be about the right amount of time for this side effect to begin to surface.

The U.S.S.R. has no public hearings like this one, no lengthy intervention processes of the kinds which the U.S. nuclear industry bemoans. Russia, then, is two major public disasters ahead of us. But we have our potential Chernobyl, at Hanford. We have our potential Kyshtym, at Hanford. We also have a free press. A few months ago, the following story appeared in the Oregonian:

In the late 40's, the government was trying to devise ways to measure radioactive fallout in the Soviet Union in order to monitor their nuclear blasts. Measuring the radioactive dust in the holes of Russian bowling balls was put forth was one option. 5,5000 curies of I-131, a thousand times the contamination released during the Three-Mile Island accident, were purposely discharged into the air of the Northwest to test U.S. measuring devices.[7] Presumably the plan was for undercover agents to haunt the bowling alleys in Richland, Spokane and Seattle, furtively holding geiger counters over bowling balls. This plan was abandoned when someone recollected that the Russians do not bowl.

The story would be funny, except that that radiation really was released over the Northwest. We don't know where the government finally chose to measure it: on cars in parking lots, in playgrounds, on cow's udders or horse 's manes. And we don't know what the health effects of this experiment were and are, because a full-scale, independent health study has never been funded.

The story isn't funny, either, because it still goes on. More than 40 lbs. of pure plutonium were scheduled to go up in the next rocket launch after Challenger, enough to

contaminate the entire planet.[8] And today we are here to address a plan to ship all of the nuclear waste in the country, 85% of which is produced east of the Mississippi River, by truck and by train across the continent to bring it to Hanford, and to deposit it on the banks of our region's most vital waterway; to endanger the river, to endanger the people of the Northwest, and to endanger every state in the union those trucks and those trains pass through.

There is no easy answer. moved only when it threatens weather supplies, & then moved within the region, 9th

Painful as it is, existing nuclear waste should be left in the regions it was produced in, contained in the best way technology can offer. Thus each region will be confronted directly with the results of our present nuclear policy, and with its price tab. And further production of nuclear waste ~~should~~ must be rapidly eliminated.

Already, William Lawless says, "The levels of water contamination under Hanford are staggering." Hanford and Purex are enormous threats. If the U.S. shuts them both down, challenging the Soviet Union to shut down two similar facilities, we would be taking a step towards nuclear sanity. My hunch is that Gorbachev would accept the challenge; certainly we would lose nothing.

What we can lose if they continue operating is staggering. Hanford and Chernobyl: Purex and Kyshtym; Richland and Nagasaki. Nothing is isolated, especially here, in this land of clouds and water, which the U.S. government is thinking of declaring expendable.

The people of the Northwest have given a great deal already to the nuclear experiment. The ancient Romans had a proverb: "Honor and praise to him who wills to do no harm, but not the gods themselves oppose necessity." The time of nuclear innocence is ended. The people of the Northwest will to do no harm, but will, like self-respecting people everywhere, do whatever is necessary to protect continuing life in this region.

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3.3.5.2
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2.5.6
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29

NOTES

1. N.W. Alert, Hanford Clearinghouse
2. Dr. Allen B. Benson and Larry Shook, Hanford Education Action League report.
3. Benson and Shook, ibid.
4. Ibid.

047

5. Joanne Oleksiak, "Hanford, Slowly Getting the Facts," The Alliance newspaper, June, 1986
6. Ibid.
7. Ibid.
8. "The Lethal Shuttle," The Nation, February 22, 1986, p.1.

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0048

July 10, 1986

I'm Rochelle Cashdan, an anthropologist from Portland, speaking for myself. I've lived near the Columbia or its tributaries for my 22 years in the Northwest.

The Columbia River basin is one of the Great river basins of the world. It has been home for people for thousands of years.

2.1.1 I don't want to see nuclear waste dumped anywhere near it. It's not good for people.

Rochelle Cashdan, Ph. D.

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63

0049

OSPIRG

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Statement of Sara L. Laumann
before the
United States Department of Energy
Public Hearing - Portland, Oregon

July 10, 1986

Good evening. I would like to thank the U.S. Department of Energy for the opportunity to submit this statement. My name is Sara Laumann. I am the Staff Attorney for the Oregon State Public Interest Research Group. OSPIRG is Oregon's oldest and largest environmental and consumer organization with over 30,000 citizen members and over 35,000 student members statewide.

There are two points I would like to cover this evening: First, there is a lack of opportunity for Oregonians and the state of Oregon to participate in the decision-making process involving Hanford; and second, there are various issues involving the transportation of high level radioactive wastes through Oregon that have not received adequate consideration. 2.4.1.5 3.4.2.2

OSPIRG DEMANDS THAT OREGON BE GIVEN AFFECTED STATE STATUS

Since the Hanford Reservation is only 30 miles from the Oregon border, there are arguably more impacts on Oregon than Washington. The potential environmental and health effects from the radioactivity at Hanford will not respect state borders. In the Draft EIS, the DOE states that "Downstream users of the Columbia River would incur at most one health effect associated with the disposal of waste over 10,000 years." We, citizens of 3.2.4.1

Oregon, are those downstream users. Further, OSPIRG believes the statement made by the DOE inaccurately represents the scope of the problem.

By inviting us to testify today, the DOE has demonstrated that Oregonians should have input into the decision-making process. Although this is a good first step, much more needs to be done. Oregon should be given affected state status. Under the Nuclear Waste Policy Act, the DOE is required to consider the "regional" impacts of locating the proposed repository at such a site. Certainly the state of Oregon falls within the region. There are and will continue to be impacts to Oregon in the way of health, safety, welfare and the environment. Any decision involving Hanford must consider these impacts to Oregon. Financial resources should be given to Oregon to study these impacts. Additionally, more hearings should be held throughout the state, particularly in those cities along the transportation routes to and from Hanford (I-84 and I-5) and also those cities along the Columbia River.

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2.3.2.8

64

OSPIRG DEMANDS THAT THE DOE SERIOUSLY CONSIDER THE ISSUES SURROUNDING THE TRANSPORTATION OF RADIOACTIVE WASTE

Currently there are 5 shipments per day of radioactive waste traveling across Oregon highways. If Hanford is selected as the repository, this number will increase to 17 shipments per day or over 6,000 shipments a year. Additionally, if the defense w

049

currently stored at Hanford is shipped to another site, the number of shipments traveling along Oregon's highways will again, dramatically increase.

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In the Draft EIS, the DOE has presented numbers, intricate computer models, complicated equations and sophisticated language, this all boiling down to the fact that shipments will be transported to or from Hanford through Oregon. It will only be a matter of time before a major accident occurs. The DOE states in the Draft EIS that there have only been 30 accidents per year which have involved radioactive materials. Although this may be true, this does not take into consideration that there will be significantly more shipments on our highways in the future. Additionally, even though 30 accidents may seem like a low number

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...it takes only one accident to cause devastating damage. Just look at what happened with just "one" accident in the Soviet Union.

3.4.3.8

In the Draft EIS, the DOE lays out the method to be used to test containers in which the radioactive waste will be shipped. The report states that "These test environments are designed to simulate very severe transport accidents." The report goes on to say that the conditions are equivalent to or more severe than actual conditions to be encountered. In the drop test, a container is dropped from 29 feet. Certainly there are portions of the highways in which a container could fall more

3.4.2.12

than 29 feet. The thermal test - tests the container in a 30 minute fire at 800 degrees Celsius. This is inadequate because certain fuels used in transportation burn at over 1000 degrees Celsius. In the water-immersion test, the container is in water for only 8 hours. One can imagine circumstances in which a container filled with radioactive waste remains in the water for more than 8 hours. The tests on the containers are inadequate and do not truly reflect the very severe transportation accidents that they are designed to simulate. The containers will not protect the safety and welfare of citizens nor the environment.

3.4.2.12

It is essential that those responding to an accident involving radioactive waste be prepared for the worst case scenario. OSPIRG urges the DOE to allocate financial resources to provide for adequate response along the potential transportation routes. In the Draft EIS, the DOE acknowledges that the ultimate responsibility for emergency response planning lies with the state and local governments. OSPIRG agrees that this is where the planning should occur. However, most of Oregon's 'first responders' do not have the necessary equipment, training, and planning to adequately respond in the event of an incident.

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In conclusion, the DOE proposes to increase radioactive waste shipments through Oregon. Some of those shipments will be traveling only a short distance from this auditorium. This increase will endanger our health, our safety, and our environment. Until Oregon gains affected state status and until

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the DOE adequately considers all of the impacts from transporting these radioactive wastes, reasoned decision making can not occur.

3.4.2.2

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July 10,1986

Input re Draft E.I.S. concerning Hanford as candidate site for radioactive waste storage.

To save time, I'm going to talk about only one gripe: People haven't been told who will be endangered should there be leaks at Hanford. The Draft E.I.S. does say, quote "There is no withdrawal of groundwater from beneath the Hanford Site for purposes of supplying any community water systems". (p.4.21)

Goodie. People living nearby evidently are cautious. But, if there were a leak, and if radioactivity got into water, and if the water moved - who would be endangered?

This is a vital question. The people who would be endangered are, at present population counts, about 700,000 people living in the Portland metro area, whose current water sources include deep wells close to the Columbia River, downstream from Hanford. Certainly radioactivity getting into the Columbia could get into these wells. We don't know where the aquifers from Hanford go, but there's no reason to doubt that they might connect with Portland's wells.

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3.2.3.6

The reason Portlanders and Oregonians at large should know this, is that then they would insist on Oregon having a veto power, like Washington State has, should Hanford be selected as the repository site.

2.4.1.5

But, they haven't been told. Congress is letting only Washington have a veto power, although many more people who have a direct concern as far as their drinking water is concerned, live in Oregon.

In this climate of lack of public information about Portland's water sources, and dangers they are subject to, it is not surprising that Representative Weaver has been (to my knowledge), our only Congressman who has worked for Oregon having veto power equal to that of Washington.

Respectfully submitted,

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99

BEFORE THE DEPARTMENT OF ENERGY
Public Hearing - July 10, 1986
BPA Auditorium, Portland, Oregon

TESTIMONY OF PATRICIA MORGAN
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My name is Patricia Morgan; I reside in Oregon City, but I live forever on Planet Earth. I would like to express to you many emotions, but I know that hearings personnel do not make decisions on emotions. They make decisions on facts -- and I will give you a few facts, though I will admit from the start that I am not a learned scientist on nuclear issues. But first I must express my emotions.

My first emotion is that I'm scared. My reaction is to run, but there is nowhere to run to. I sailed for seven years in the South Pacific, and I want to run back to that fast fading paradise, but there is no running if a repository is sited on the great Columbia Waterway.

I am frustrated and feeling totally helpless in the power of the government and greedy corporations to decide the future of my children and this earth. I have not been lulled to sleep by the lies of the safety and necessity of nuclear arms and nuclear energy; thankfully, I am still a thinking and feeling human being.

2.5.6

I believe we have become a frivolous society -- frivolous in the use of our resources and forgetful in our reverence for the earth on which we live. I feel deeply that with reverence there emerges a conservation of resources that are Earth's continuing gift to its living creatures. For some unfathomable reason the poor white man is blinded by an ignorance that drives him to believe that he can conquer nature, that he does not need to live in harmony with the Earth. But when the plants are dead, the rains are acid, the ozone layer is gone and we are all dying of radiation sickness, there will no longer be time to change.

My biggest fear, and sadly it is held by every other mother I have talked to, and sadly I don't believe it is an unfounded fear, is the fear of whether I will have the strength to slit my children's throat, my three children's throat, at the time of the nuclear holocaust due to a meltdown of the N-Reactor, when a major repository at Hanford shakes and trembles from volcanic/earthquake acti-

3.4.3.1

vity, releasing massive doses of high-level radiation into the surrounding environment and into the Columbia River and the exposure is a two-week slow death warrant. Can I look into my children's eyes and tell them it is the most loving thing I can do for them is to end there life today rather than put them through the torture of irradiated death?

So those are my emotions. I would like to add that my second son who was conceived in Micronesia, close enough to Eniwetok, was born bilaterally clubfoot, his feet twisted into half balls and pointing backwards, upside down. I was lucky: He only required 10 months of continuous casting, one major surgery, and four months of polio-type braces. He is still very pigeon-toed; his musculature in his lower calf will never develop. As a mother it was a very torturous experience, very heart-breaking. Was he deformed because of all the irradiated fish I ate living in Micronesia? I've often wondered. Birth defects is only one effect from radiation poisoning.

We have borrowed the earth from our children; they will borrow it from their children.

Facts. We have 43 years of accumulated nuclear waste and you and I don't know what to do with it. And it's not going away, is it? Facts: The people who created were not thinking much beyond their pocket books when they created it, so much so that they even have an insurance disclaimer stating they will not be responsible for any kind of nuclear disaster. Facts: The government and greedy utilities are continuing to building nuclear power houses and create nuclear waste. Facts: They have no place to put it safely.

Sadly, I'm not a scientist; I'm just a sensible person trying to living in harmony with my home. Oftentimes when I meet people with different value systems than I, I walk around them. I let them be. We obviously have different value systems and I can't walk around you. I must shout out to you that you are wrong: You are morally, economically, spiritually and politically wrong
2.5.6 to continue to produce nuclear anything. And that is the beginning of the solution.

I try to teach my children that it is okay to admit that you are wrong,

that it is actually a sign of positive strength to admit you are wrong, to step down and try to correct your wrong. That is the beginning to the solution: Even Einstein has admitted he was wrong in ever unleashing such a power upon this earth.

We don't need nuclear energy. Conservation measures have worked so effectively in the Northwest -- I don't know about other parts of the nation -- that the power companies are losing money and trying to get rid of conservation measures -- again for their own greedy reasons. We don't need to kill people. I don't know of any women or children or even warmonging men who need to die. We don't need nuclear anything, and the beginning to your problem of storage 2.5.6
of nuclear waste is to stop producing it. Today. Pass a law. The government passes laws regulating our consciousness, regulating how fast we travel across the surface of the earth, regulating where our personal wastes go and these are all passed in the name of providing ultimate safety to members of society. Pass a law which bans nuclear power plants and nuclear bombs. Simple.

In Oregon, we are attempting to pass laws and I think we'll do it in November: Three petitions will be on the ballot dealing with the nuclear fuel cycle: one that will phase out nuclear weapons manufacture in Oregon by 1990, one that will prohibit the operation of a nuclear power plant in Oregon, and a third dealing with low-level radioactive waste and laws requiring its safe containment. Oregon will set a precedent and become the first nuclear-free state in the union. You, as the U.S. Government, can pass national laws simply banning outlawing, forever ending the production of high-level nuclear waste.

So that's the solution. Stop production of nuclear waste. Or that's part 2.5.6
of the solution. I am not a learned expert on nuclear waste so I can't speak intelligently about how to deal with the waste already produced. I can only say that as with any logical solution to a problem, you must first set out strict criteria outlining the absolutely safest method and site. The criteria should not include, under any circumstance, political expediency, which seems to be 2.2.1
on the top of your list right now. Soil is proving to be an inadequate method of deposition of our man-made wastes, but if you're insistent in using soil don't

67

place your high level radioactive waste in water permeated soil four miles from
2.1.1 a major river, upstream from a million or more people. I know that you know that Hanford, for that reason alone, is the most dangerous, most ridiculous site picked. Why continue to wear the Idiot Caps. Take them off as Bob Pollard did in 1975 when he quit the NRC, taking the moral initiative to stop being the puppets of a crazy government and greedy utilities.

But if you're going to continue in finding a solution, continue to outline specific criteria: The site must NOT be within an earthquake zone. The site
2.1.1 must NOT be within an area of known volcanic activity. I demand of you, the DOE, that you come back to us with a list of criteria that we, the people of this region, must approve as logical and safe criteria before you even suggest siting a permanent nuclear waste repository in our Northwest area.

And emotions must enter into your decisions because emotions are powerful. The Boston Tea Party was emotions: People fed up, absolutely fed up with
2.5.5 a government, fed up with taxation without representation. We are fed up with this forked-tongue syndrome, you coming to listen to our suggestions and then going back East, far away from the problem here, and making decisions about our lives without listening to your consciences. Change your value systems. Take a walk through Shriners Crippled Children Hospital and hold the handless arm or an armless shoulder of a deformed child; go to a cancer ward and talk to those dying of cancer, a disease still increasing at rapid rates in spite of medicine's newest cures; go to the 93,000 people of the Chernobyl accident, as many of them slowly die from their exposures; go to the victims of Hiroshima; and if you have children, look hard into your children's eyes and ask how you can end their misery the quickest if they were 25 miles from a disaster of the magnitude Hanford could create; and then go deep into your heart, watch a sunset. And then list another criteria for a repository: that from this day forward
2.5.6 no more nuclear waste shall be produced. We can all change our lifestyles a little and live without wasting so much energy; we can change our values and live without desiring to murder women and children.

You are forcing a time bomb on the people of the Northwest and we don't want it, but then maybe it's time for another chapter in the history book called The Hanford Tea Party.

Testimony given at U.S. Department of Energy Hearings

July 10, 1986

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There are two points I'd like to make this evening. As a technology professional, I want to say that the ENVIRONMENTAL IMPACT STATEMENT document is defective, inadequate, alienating, elitist, ill-researched, presumptuous, and ludicrous. I am not fooled by your simplisitc and seemingly confident answers to such questions 2.3.2.10 as:

- o• What is the issue?
- o• How safe is the current storage?
- o• What impacts can be expected in the near future?
- o• What long-term impacts can be expected?

The answers you present are not satisfactory or properly analyzed. You DON'T know what the issue really is, how safe the current storage is, or what impacts can be expected in the near or far future. 2.3.2.1

Go back to the drawing board. It is time for the Department of Energy to take total responsibility for making a competent and thorough assessment of the technologies it

implements or proposes to implement. This technology assessment must take into account health and safety, educational, economic, and equity issues for all people. 2.2.1

My second point is to remind all of us that the Hanford nuclear waste issue is related to, a part of, and connected to other vital issues was are involved with and affected by in the western U.S., namely the preservation of old growth forests, specifically the Cathedral Forest here in Oregon. We are also connected to and affected by the injustice being inflicted on the Hopi and the Navajo peoples at Big Mountain in Arizona. 3.2.6.1

The Hopi prophecy reminds us: "If we dig precious things from the Earth, we will invite disaster.

As we convene in this room opening our hearts and joining our voices together, we are in harmony --- we are one voice. Our voice will be heard.

69

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Hanford Defense Waste Disposal
Draft EIS
Testimony of Lynn D. Frank, Director
Oregon Department of Energy
July 10, 1986

I am Lynn Frank, Director of the Oregon Department of Energy, representing Oregon Governor Victor Atiyeh.

We would like to share the conclusions of Oregon's Technical Review, which will be supported by comprehensive technical analysis submitted later, along with comments from citizens.

For decades, we have lived in the shadow of the unknown and unseen peril of radioactivity at Hanford.

The willingness of the new management at Hanford to open the books for public inspection is a welcome change in policy.

The insights gained have been revealing, distressing and long overdue.

With anguish, we have learned of past practices which simply would not be accepted today.

Today we have the opportunity for our voices to be heard in responding to the challenge of what to do with defense wastes at Hanford.

For his initiative in proposing a solution, we applaud the Richland Operations Manager, Mike Lawrence. For acknowledging Oregon's vital interests, we thank him and you as well. That recognition too is long overdue.

There are three principles which must guide us in meeting the challenge.

First, long term risk to public health and safety and the environment simply cannot be accepted. No action should ever breach that standard. 3.5.5.33

Second, if the options presented do not give us the greatest confidence that standard can be achieved -- we urge you to pursue more innovative technologies to gain that confidence, and that you not risk needless radiation exposure to the workers. 3.3.5.3

Third, wastes which can be safely retrieved and reliably disposed should be acted upon now. 3.3.5.3

3.3.1.1 The option that gives us the greatest confidence is disposal at a geologic repository. That repository too should be chosen on the basis of the greatest confidence in the ability to protect public health and safety and the environment.

2.1.1 Lest there be any doubt, it is our clear and abiding conviction that Hanford fails that test.

Those principles lead us to these conclusions:

3.3.5.3 1. The high-level liquid wastes in the double shell tanks can and should be retrieved, glassified, and moved to a future geologic repository.

3.3.5.3 2. The high level solid wastes in the single shell tanks should be retrieved, glassified, and moved to a future geologic repository.

3.3.5.4 For that to be achieved, more innovative technologies than those considered must be pursued, because of the tremendous cost and needless radiation exposure to workers.

The imminent threat to the environment was relieved when liquids were taken from those tanks. That action gives us the time to pursue safe, cost-effective technologies to retrieve that waste for disposal in a geologic repository.

3.3.5.3 We are confident that we can know if that can be achieved within five years. Only if that cannot be achieved, would we urge stabilization in place. Even then the wastes should be solidified and more comprehensive engineered barriers adopted.

3.1.3.25 3. Plutonium wastes produced after 1970 should be retrieved and disposed at the waste repository being built in New Mexico.

3.1.3.25 4. Plutonium wastes produced before 1970 should be retrieved and disposed at the New Mexico repository.

However those pre-1970 wastes are dispersed and not as safely retrievable now. We urge you again to complete a more critical analysis within five years to avoid unreasoned cost and unnecessary radiation exposure to workers. Only if a better retrieval option cannot be achieved, should stabilization be pursued. Even then, higher standards for protection must be accomplished.

3.1.2.5 5. The strontium and cesium wastes encapsulated for medical and industrial use should be shipped to a future geologic repository.

Finally, we recognize that the initiative of U.S. DOE alone will not be enough.

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We support Congressional action to:

- Direct that department to comply with federal and state requirements on waste handling and disposal for chemical and low-level radioactive wastes as well; and, 2.3.1.14
- Establish and enforce a demanding schedule of compliance. 2.2.2

But, even that will not be enough. Congress must do now what it should have done 40 years ago: Provide funding to dispose of these and future defense wastes. 2.2.9

Congress demands that Oregonians pay-as-we-go to provide funds for waste disposal for the commercial nuclear industry. Congress should demand no less of itself and the U.S. DOE. 2.2.9

Congress should pay now for wastes produced now in its nuclear weapons production programs. 2.2.9

The cost will be great. But, for 40 years, these wastes have grown as a liability of this nation. It is time that debt be paid.

Thank You.

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OREGON POSITION
ON
DISPOSAL OF THE
HANFORD DEFENSE WASTES

July 10, 1986

Prepared by:

The Oregon Department of Energy

625 Marion Street NE, Salem, OR 97310

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OREGON POSITION
ON
DISPOSAL OF THE HANFORD DEFENSE WASTES

In April 1986 the U.S. Department of Energy issued a draft environmental impact statement (EIS) on Hanford defense waste disposal. The draft EIS sets forth disposal options for radioactive wastes accumulated during four decades of weapons production at Hanford.

The ODOE Hanford Advisory Committee sponsored two public workshops to discuss and comment on EIS issues. The Hanford Review committee reviewed the draft EIS and also provided technical comments. These reviews and comments were used to develop the Oregon position.

The comments reflected the need for Oregon to take a strong position on deciding the permanent disposal of Hanford defense wastes. Our challenge is to obtain the necessary level of health and safety in the most cost effective way. Then, we must work to gain support for our position.

Basis for Oregon's Position

We must eliminate the long-term risks to public health and safety of defense wastes temporarily stored at Hanford. We should make decisions now that can be made now. Those wastes that are easily cleaned up should be. For those wastes for which we have the retrieval and disposal technology, and where current practices eventually will lead to leaks, we should take all reasonable actions to process and dispose of the waste. 3.3.5.3

Some wastes are difficult to deal with, but current storage poses no immediate problem. For those, we must develop greater confidence in our options. This process should be designed to take no more than the next five years. Our priority should be to avoid long term risks to ground water and the river. Research should be focused on ways to dispose of wastes by looking for innovative waste treatment techniques. 3.3.5.3

Based on these criteria, the Governor has taken this position on Hanford defense wastes.

1) Transform existing and future high-level liquid wastes into glass. Dispose of these wastes in a future geological repository. 3.1.8.9 3.3.1.1

2) Treat and ship post-1970 plutonium wastes (called transuranic [TRU] wastes) to the defense repository for plutonium wastes in New Mexico. 3.1.3.25

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3) All other wastes must be better understood in terms of the trade-offs. Reasonable decisions must be made, but in light of the priorities mentioned above.

The various wastes are discussed below.

Double Shell Tanks contain high level liquids and suspended solids.

Option 1. Waste in these tanks could be retrieved, glassified and disposed in a future geologic repository. The plant to glassify these wastes could be completed by 1994. The cost of this option is about $877 million for existing waste, and $1.1 billion for future waste.

Option 2. Dried and stabilized waste could be disposed near ground surface. The waste could be covered with a rock and soil barrier to prevent flow of rainwater through the waste.

Oregon's Position

3.3.5.3 Oregon recommends option 1. This material is liquid high-level waste. If left in liquid form, these wastes eventually will leak. These wastes also are easily retrievable. They should be disposed in a geologic repository. This approach is consistent with standards for the commercial industry.

Single Shell Tanks contain solids in the form of sludge or salt cake. The radioactivity in this material is similar to the wastes in the double shell tanks. But, it is older and more dilute.

Option 1. The waste could be retrieved and separated into high-level and low-level waste. High-level waste could be converted to glass for future repository disposal. The low-level waste could be converted to a cement-like material and disposed on site.

Option 2. The waste could be stabilized in place. This treatment would include filling the empty space in tanks with crushed rock. The rainflow barrier described earlier would also be used.

Option 3. There is not enough information to choose now. We need a better understanding of the trade-offs and more confidence in the options before we decide.

Oregon's Position

3.3.5.3 Oregon recommends Option 3. The material in single shell tanks should be processed no matter what option is chosen. The best method is to retrieve and glassify it. But, this option involves tremendous cost and needless potential radiation exposure to workers. US DOE

should investigate other cost effective means of retrieval. We believe this can be and should be achieved within five years.

The wastes in single shell tanks have been processed to reduce the water in them. This has reduced the possibility of leakage from deteriorating tanks. Thus, time spent to research disposal options will not significantly impact the environment in the short-term.

If studies show that in-place stabilization is the best option for single shell tank wastes, engineered barriers should not be the only means of protecting public health and safety. Multiple barriers are needed. An example would be to mix the wastes within the tank with grout. Thus, they would not easily be dissolved in water if it entered the tank. Engineered barriers should be relied upon as a secondary level of protection. 3.5.1.8

Post-1970 Plutonium Contaminated Wastes consist of contaminated equipment and laboratory wastes. This waste has been stored for retrieval since 1970.

Option 1. Removal and treatment of the waste at Hanford. Eventual disposal at the defense repository for plutonium wastes in New Mexico. This would require a processing facility to be completed by 1990-1993. The cost of this option is $180 million.

Option 2. Near surface stabilization with a cement-like material. A barrier identical to that described in the second option for double shell tank waste will also be used.

Oregon's Position

3.3.5.3 Oregon recommends option 1. The storage of these wastes was designed for retrieval. These wastes pose an extremely long-term radiation hazard. They have been put in wooden boxes and steel drums and buried. The deterioration of these containers eventually will release contamination into the soil. They should be retrieved and disposed in the New Mexico repository.

Pre-1970 Plutonium Contaminated Waste consists of general trash, failed equipment, and 24 soil sites contaminated by releases directly to the ground. These wastes are not readily retrievable.

Option 1. Removal and treatment of buried solid waste and soil sites which exceed US DOE's classification for low-level plutonium contaminated waste. Treated waste could be shipped to the defense repository for plutonium wastes in New Mexico.

Option 2. Immobilization of the waste burial grounds by filling with a cement-like mixture. The area is to be covered with a rainflow barrier as previously described.

Option 3. There is not enough information to choose now. We need a better understanding of the trade-offs and more confidence in the options before we decide.

Oregon's Position

Oregon recommends Option 3. The wastes should be removed and treated if reasonably achievable. These wastes pose the same hazard as post-1970 contaminated waste and should be treated the same. If this goal cannot be achieved, more confidence in stabilizing the waste and confirmation of barrier protection must be accomplished. Again, this should be completed within five years. 3.3.5.3

These wastes have been buried for many years. Spending more time to research proper retrieval and disposal methods will not increase the the hazard in the short-term.

Strontium and Cesium wastes are double encapsulated in stainless steel cylinders. These wastes are stored in water basins.

Option 1. The capsules could continue to be stored in water basins until 1995. Capsules could then be packaged and shipped to a future geologic repository.

Option 2. Capsules could continue to be stored in water basins until 2010. Beginning in 2010, the capsules could be placed in a dry storage vault. A protective barrier as described earlier could be constructed over the site in the years 2013 to 2015.

Oregon's Position

Oregon recommends Option 1. Many of the capsules have been leased to industry for sterilization facilities and process control. The remainder's stored in water pools and is under constant attention. There is no immediate hazard from short-term storage of this waste. But, these capsules are highly radioactivite and will remain so for thousands of years. Eventual geologic disposal will provide safe long-term disposal. 3.3.5.3

Other Concerns

Oregon also has serious concerns about chemical waste and low level radioactive wastes from defense activities. USDOE's proposal does not deal effectively with these issues. But, they are potentially serious risks to public health and safety and the environment. Oregon supports 2.3.1.13 3.1.6.1

Congressional initiatives to direct US DOE to comply with current federal and state requirements on waste handling and disposal. A schedule of compliance should be drawn up and enforced. Congress must provide funding to achieve clean-up of these wastes as well. This funding should be provided before any of these actions are required by Congress. 2.2.2 2.2.9

Forty years of defense materials production has resulted in an enormous amount of radioactive wastes at Hanford. So much waste poses difficult and complex retrieval, processing, and disposal problems. Funding has been ample for the production of the defense materials but not for waste disposal. Oregon believes that funding policy is not acceptable. Congress requires the commercial nuclear industry to concurrently set aside funds for the disposal of radioactive wastes as they are generated. USDOE also should be subject to this requirement. Plutonium production should not be allowed without concurrently providing funding to dispose of generated wastes.

Governor Atiyeh will be working with Oregon's Congressional delegation to see that these actions are carried out.

NOTE: This paper will be the executive summary for the State of Oregon's technical and public comments on the Draft EIS. These formal comments will be submitted to US DOE on or before August 9, 1986.

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Lloyd Marbet

1) Thankyou for opportunity to be here yet I am greatly troubled by a [redacted] hearing process which can only find the time for limited public involvement

2.3.1.14

I wish I could limit your time to [redacted] stops and clean up this problem in 5 minutes Sad to hear people rushing to commentate with you.

2) who I am - represent address

3) sponsored 2 initiative petitions - helped a 3rd

[redacted] political

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1.) Thankyou for the opportunity to be here. I wish I could limit your time to resolve this problem in 5 minutes [redacted]

2.) Who I am - represent - address

3.) sponsored 2 initiative petitions - helped a 3rd

4) It is nice to see an issue that our representatives and political candidates [redacted] Flak to. [redacted] in opposition to Hanford at varying degrees but I want to remind everyone here that the true litmus test is whether these same politicians are equally strong in their position regarding radioactive waste disposal problems within OR as well will they lend their names to the problems at Hanford, Wah Chang's radioactive waste on the Willamette - Trojan or stopping continued production of nuclear weapons.

2.5.6

remind everyone when the people lead the leaders will follow

5) We are concerned about the seperation of waste issues in the environmental review taking place at Hanford

2.3.1.14

→ [redacted] It seems apparent to us that the treatment of defense wastes can only lead to using them as a tool excuse for disposal of commercial wastes at Hanford — Only chosen site of the three that already has waste

2.3.1.2

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6) What I find lacking overall assessment of all ongoing activities on the Hanford Nuclear Reservation and how they ultimately affect any proposals to use this location and environmental as a waste repository.

2.3.1.14

7) Until we have such an assessment two responses to this problem is necessary a) East Coast Waste b) no new waste

Reed College another site for waste dump

1) 1st they tell you your wrong and they can prove it

2.5.5 2) then they tell you your right but it doesn't matter

3) then they tell you it matters and they've known it all along

4) When they tell you ~~it was~~ they've known it all along it's too late

Its nice to get recognized for one's work but I'd rather it it's not already to late or if those ~~who~~ who flock to ~~this~~ oppose Hanford are willing to place their reputations and aspirations on the line when the nuclear Fuel cycle comes home to roost

TESTIMONY
BY CONGRESSMAN RON WYDEN

BEFORE THE U.S. DEPARTMENT OF ENERGY
HEARINGS ON THE HANFORD DEFENSE WASTE
DRAFT ENVIRONMENTAL IMPACT STATEMENT

PORTLAND, OREGON
JULY 10, 1986

Thank you for convening this hearing.

Many people in the Northwest are worried about the possibility of a future repository being built at Hanford. But not everyone is aware that the place holds enough waste right now for a madman's nightmare.

Last February, the Northwest learned about the massive releases of radiation into the air from Hanford.

What we didn't hear about is the massive dumping of liquid wastes into the soil at Hanford which has turned the groundwater radioactive.

The majority of the citizens of the Northwest have no idea how much waste sits in old and corroded tanks at Hanford.

They don't know the story of tank 105-A, how it ruptured and spilled its contents into the soil when someone put waste in it that was too hot.

They do not know about tanks with holes plugged by radioactive salts.

They do not know about "slurry growth" in the new double walled tanks -- tanks filled with radioactive wastes rising like cakes in the oven, filled with bubbles of potentially flammable gas.

I am not a scientist. I can't talk about nuclear physics. But I can tell you what Oregonians do and don't want. 2.2.1

Oregonians want DOE to clean up Hanford.

Oregonians don't want DOE to turn Hanford into a National Sacrifice Zone.

Let me share with you what that means.

Number one, that means Hanford is not DOE's personal kingdom and playground. It is part of our environment.

When DOE pours radioactive wastes into the soil at Hanford, you pour it into the environment. When DOE talks about putting radioactive cement or grout into the ground, it knows the environment will pay the toll. 2.2.10

The groundwater under Hanford -- that water Hanford operations have made radioactive -- that water that the Draft EIS does not even talk about cleaning up -- that's part of the environment too. 3.5.3.11

For too long, DOE has pretended the environment starts where Hanford stops. DOE's message is: on Hanford property, DOE is the law. That's not right -- and it's not in the public interest. 2.2.16

3.3.2.1 Northwesterners also don't want DOE to leave nuclear waste in shallow graves in the ground when there is a reasonable alternative.

2.2.10 That's a lesson DOE never has learned. In fact, DOE appears to believe that the soil at Hanford is nothing more than Nature's Own Nuclear Waste Treatment Facility.

2.2.10 Take, for example, the use of soil to dispose of radioactive liquid wastes. That's illegal at commercial nuclear facilities, and DOE itself has adopted a guideline against the practice.

2.2.10 But it has never applied the guideline to Hanford. To this day, Hanford pours gallons upon gallons of radioactive liquids into the soil, shaking your head when people criticize you for it.

The same attitude seems to apply to solid wastes.

2.5.5 DOE's Fiscal Year 1987 budget request for money to look at ways to remove the tank waste from Hanford is peanuts compared to what it wants to spend to develop ways to keep it in the ground.

2.5.5 They tell Congress keeping the waste in the ground will save enormous sums. Frankly, I cannot believe it HAS to cost eleven billion dollars to remove the wastes at Hanford to a repository. I just don't think DOE has looked hard enough for a solution.

2.2.11 The third critical step for the Northwest is for DOE to take an honest look at removing all the waste from the site -- and not be prejudiced by the unlawful decision to table the search for a second repository.

2.4.1.1 Finally, DOE must stop putting itself above this country's environmental laws -- more specifically, the hazardous waste laws.

2.3.1.14 The defense waste at Hanford isn't just radioactive. It's toxic -- filled with heavy metals and organic compounds. It's also chemically reactive -- and under the wrong conditions, perhaps even explosive.

2.4.1.1 Congress has wrestled with the problem of hazardous wastes three times in the last decade, and each time it has given the Environmental Protection Agency (EPA) the power to regulate them. And, yet, time and time again, DOE has ignored or resisted EPA regulation. In fact, DOE had to be taken to court before it would admit that it was subject to the hazardous waste laws.

2.4.1.1 Even today, DOE resists recognizing EPA and the state of Washington's authority under federal law to regulate the hazardous components of these defense wastes.

2.4.1.1 DOE is not -- and must not be -- above the law. If DOE believes it deserves special treatment, it should go to the authorities, apply for a variance, and prove it. It shouldn't just pretend that there is one set of rules for everyone else and another for it.

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2.3.2.8 One last point before I go. It is my understanding that this hearing is designed to allow as many citizens of the Northwest as possible to share with DOE their opinion of the draft environmental impact statement. As a public outreach exercise, however, I'm afraid this hearing has failed on two points.

2.3.2.2 Number one, under the National Environmental Policy Act, it is customary -- if not mandatory -- for DOE to flag for the public which of the EIS alternatives it prefers. It has not done so in this case.

That is like palming extra cards in a game of poker while everyone else is betting on the cards already disclosed. My cards are already on the table. So are those of the other witnesses at today's -- and other -- hearings. Where are DOE's cards?

What trade-offs is DOE willing to make to pursue its preferred alternative? What will that mean for the groundwater -- and the soil -- and the livelihood of Northwesterners?

2.3.2.8 Without this full disclosure, I feel a bit like we're being asked to operate with blinders on -- and I don't think that serves any of us.

2.3.2.8 My second concern has to do with the way the DOE sought public input into this hearing. For the life of me I can't figure out why with a more than $1 million public information budget, the department couldn't have had a local contact number or a 1-800 number instead of requiring people to call long distance to Richland to sign up to speak.

3.2.4.1 Mr. Chairman, if you come away with any message today I hope it is this. Oregonians care -- and deeply -- about what is done at Hanford. We care about whether our water is contaminated -- our environment endangered -- our future cheated. We may not live in Washington, but for Oregonians, Hanford is about as up close and personal as it gets.

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056

STATEMENT OF HELEN E. RAMATOWSKI
on behalf of
THE LEAGUE OF WOMEN VOTERS OF CLARK COUNTY, WASHINGTON
July 10, 1986

SUBJECT: Comments on the USDOE Draft Environmental Impact Statement on Defense Wastes.

I am Helen Ramatowski. I reside at 12714 SE Park Street, Vancouver, WA 98684. I appear today in the company of other members of the Nuclear Waste Committee of the League of Women Voters of Clark County, Washington. We wish to present policy-oriented comments on the subject EIS and the overall waste disposal process entrusted to the USDOE.

The LWV of CC has fortunately benefitted from a close and cooperative relationship with the Washington State Nuclear Waste Board, the Office of Nuclear Waste Management, and the Nuclear Waste Advisory Council on which one of our members serves. We have also observed or participated in a variety of meetings and workshops relevant to defense waste and/or waste management at Hanford. We generally defer to and concur in the comments under preparation by the NWB and undergoing extensive coordination within the state prior to the August 9th deadline for public comment. While we recognize and expect that the state's draft review comments may be further refined, we are most appreciative of the openness of our state officials in circulating their issue analysis at public meetings throughout the state and for their receptivity to citizen viewpoints.

4.1.1 One characteristic of the state of Washington's approach we wish you would emulate is an avoidance of the project-specific or programmatic approach to complex technical and policy issues which are frequently inextricably interrelated, irrespective of the class of waste. The general public really cannot cope well with your compartmentalization of the issues and the failure

77

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056

to promote public involvement by providing "lay" explanations, Qs & As, other tools non-experts have the time and facility to comprehend.

The LWV of CC share the State of Washington's belief that this process is not the usual type of EIS review. We are emphatically not in the position of marshalling arguments against a major Federal action. Instead, we are all responsible for helping you find ways to ensure through remedial measures and planning that Hanford defense wastes are disposed of safely and effectively. 2.3.2.12
The LWV of CC endorses the generally supportive stance of our state towards the USDOE's commitment to improved waste management at Hanford. In return, we urge you to cooperatively assist in meeting the program requirements of the Washington State team , and specifically to anticipate and/or comply with the State's continuing needs for timely, accurate, and complete information.

With respect to the DEIS, we have three major concerns to express.

(1) We urge you to revise the analysis in both scope and structure to provide for a systems approach to an integrated disposal strategy for both the radioactive and associated chemical wastes. The latter have not gotten the 3.3.5.8
treatment their presence at Hanford and the hazards they present warrant. The State will outline in its review comments an alternative technical concept for their handling. This concept should be investigated by the USDOE.

(2) We urge you to revise the analysis to expressly consider the technical implications of presidential decisions: the first, to commingle defense wastes in a repository, and the second, to indefinitely postpone the 2.1.3
second repository program and possibly amend the NWPA of 1982 to increase tonnage limits. We share the concern that there may be an underlying assumption that the single-shell tank wastes are to be stabilized in place. Such an assumption has ramifications for the engineering design and capacity of a deep repository. 3.3.5.7
The State of Washington wonders if there is an insufficient volume of intact

basalt in the Cohasset flow, and if the site may not prove unsuitable in terms 2.1.1
of geology and hydrology. If the State's concern proves warranted, site characterization would be inappropriate. From our vantagepoint, there is no question that this DEIS is the place to discuss these issues. It is also the place to present and analyze the impacts of the alternative approaches to post-closure monitoring of a deep repository. We also expect the USDOE to 2.1.7
fully evaluate in this DEIS how the alternatives forpermanent defense waste disposal might interfere with or prevent effective technical monitoring of a repository, particularly in the earlier post-closure years.

(3) For the USDOE to adequately respond to these two areas of concern, it will be necessary to make major revisions in the technical concepts in this DEIS and the accompanying references. That, in turn, compels circulation of a revised DEIS or FEIS and adequate opportunity for review and comment by affected states and tribes, as well as the general public. We believe that, while the 2.3.2.10
present DEIS contains much useful information, it is defective in scope and analytical content. Unfortunately, its logic has given rise to the belief that 3.3.2.1
a decision may have already been made to stabilize wastes in place. If this is the "preferred alternative", it has not been so identified. If the Department 2.3.2.2
is not forthcoming about it, it will be viewed as a NEPA violation.

78

0056

NEWS
JIM WEAVER
CONGRESSMAN
4th District, Oregon
Washington: 202/225-6416
Eugene: 503/687-6732

FOR IMMEDIATE RELEASE 0057 7/10/86

(Please see full statement attached)

DEFENSE WASTE PLAN MAKES COLUMBIA RIVER A RADIOACTIVE SEWER SYSTEM, WEAVER SAYS

Portland--Rep. Jim Weaver, testifying at a Department of Energy hearing on radioactive military waste at the Hanford Nuclear Reservation, said the DOE plan would turn the Columbia River into a "radioactive sewer system."

"The first step in controlling nuclear waste is to stop making it," Weaver said. "The Hanford plants should be shut down now." 2.5.6

"What do we do with the waste we have now?" Weaver asked. "I listen to all the pious statements by politicians who were the original sinners. When it comes to nuclear waste however, they are born again opponents. But it is the Atiyehs and the Packwoods who dumped this terrible problem on us in the first place. They are the long-time nuclear weapons and nuclear energy advocates who created the mess in the first place. They should not be let off the hook for their sins because of their new found piousness," Weaver said.

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For more information contact Dan Meek at (202) 225-1661 or Jim Middaugh at 687-6732

Chairman,
Subcommittee on General Oversight,
Northwest Power, and Forest Management

Committee on Interior and Insular Affairs

U.S. House of Representatives

HEARING BEFORE THE U.S. DEPARTMENT OF ENERGY

ON

DISPOSAL OF HANFORD DEFENSE HIGH LEVEL,
TRANSURANIC AND TANK WASTES:
DRAFT ENVIRONMENTAL IMPACT STATEMENT

July 10, 1986
Bonneville Power Administration Auditorium
Portland, Oregon
2:00 p.m.

In 1960, Dr. Lev Tumerman, a Soviet scientist who later emigrated, traveled along a highway near the city of Kyshtym on the eastern slope of the Urals. He later reported that:

> "About 100 kilometers from Sverdlovsk, a highway sign warned drivers not to stop for the next 20-30 kilometers and to drive through at maximum speed. On both sides of the road, as far as one could see, the land was dead: no villages, no towns, no cultivated fields or pastures, no herds, no people, nothing."

American scientists now agree that this contaminated wasteland was the result of careless disposal of the radioactive waste resulting from producing plutonium for nuclear weapons. The Soviet facility is thought to have been patterned after the U.S. facilities at the Hanford Reservation.

DOE's 1000-page Draft Environmental Impact Statement (EIS) on disposal of radioactive waste resulting from military-related nuclear activities at Hanford differs from its subject matter in 2 ways: first, it is not radioactive; second, it can be usefully recycled.

(no comment identified)

79

057

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STOP MAKING MORE WASTE, NOW

This document fails to meet the requirements of the National Environmental Policy Act of 1969, because it fails to even mention the most desirable alternative to disposing of the additional military high-level and transuranic radioactive waste now being produced at Hanford: STOP MAKING IT, NOW. STOP MAKING THE PROBLEM WORSE. The EIS states that the radioactivity of the "future tank waste" produced between now and the year 1995 will by then exceed that of the "existing tank waste" by a factor of 3 (200 million curies v. 70 million curies). We can eliminate three-fourths of the problem by not producing more waste.

2.5.6

Where does all of the waste come from? It results from the production of plutonium for nuclear weapons. Low-enriched uranium fuel is irradiated in the N-Reactor. The spent fuel is then chopped up and dissolved in the PUREX reprocessing plant, which extracts the plutonium and leaves the fission products and transuranic elements (including some of the plutonium) as liquid high-level radioactive waste, which is still pumped into huge tanks buried under about 10 feet of dirt.

2.5.6

Does our nation need to use Hanford facilities to produce more and more plutonium for nuclear weapons. NO! We do not need to expand our nuclear arsenal. But the Reagan Administration is now engaged in the biggest build-up of nuclear weapons and plutonium ever. The testimony presented before my Subcommittee on June 16 by the Department of Defense and two independent experts on nuclear arms (including Dr. Theodore Taylor, former nuclear weapon designer and former deputy director of the U.S. Defense Atomic Support Agency), showed that, in any event, continued plutonium production at Hanford is not needed for national security. We could shut down the N-Reactor right now, halt the PUREX reprocessing plant, stop producing high-level radioactive waste at Hanford, and still get an equal amount of plutonium (about 600 kilograms per year) in less dangerous ways, such as:

2.5.6

1. Recycling the plutonium in retired warheads. We already have 100,000 kilograms of plutonium in existing weapons--160 times the annual production of the N-Reactor and PUREX. Plutonium has a half-life of 24,000 years. It doesn't wear out.

2. More efficiently using plutonium scrap. The existing scrap may be equal to as much as 10 years of N-Reactor production.

3. If absolutely "necessary," expanding plutonium production at

the Savannah River reactors in South Carolina, which already produce about 1500 kilograms of plutonium annually and are less vulnerable than the N-Reactor to catastrophic accident.

Shutting down the N-Reactor and the PUREX reprocessing plant would also protect the people of the Northwest from the threat of
2.5.6 catastrophic nuclear accidents that could involve either facility. At my Subcommittee's hearing on May 19 here in Portland, independent experts on graphite reactors testified that an N-Reactor accident on the scale of the Chernobyl disaster, causing
3.4.3.1 thousands of injuries, was distinctly possible. The experts identified several unresolved safety problems, including:

1. Reaction of the uranium metal fuel with water to produce hydrogen and the potential for explosion.

2. The possibility of single pipe failures that could disable both the primary and emergency core cooling system and lead to melting of 70 fuel rods per failure.

3. Ignition of a self-sustaining graphite fire by the heat of melting fuel.

4. Contamination of the Columbia River by the once-through emergency core cooling system.

5. Multiple pressure spikes defeating the filtered confinement system and resulting in unfiltered releases of radioactivity.

6. Absence of seismic support appropriate for the seismicity of the area. (DOE's FY 1987 budget request itself states that the lack of seismic upgrades could lead to an N-Reactor meltdown.)

7. Possible core overheating due to release of Wigner energy stored in the cooler portions of the graphite core and reflector.

8. The absence of tested emergency planning for serious accidents releasing radioactivity beyond the Hanford Reservation.

9. Other problems, such as lack of control room habitability during an accident, redundant cables routed through the same spreading room and subject to fire, broken valve parts caught in the cooling system, and lack of adequate neutron monitoring equipment.

(no comment identified)

81

DOE has now shut down the N-Reactor, because 3 former welding inspectors had falsified their credentials and another 8 welding inspectors were incorrectly given passing grades on written exams. If that is enough to make DOE skittish about operating the plant, then it should be closed permanently, right now. When the House of Representatives considers appropriations for Hanford, probably in late July, I will offer an amendment to cut off funds for operating the N-Reactor. 2.5.6

My Subcommittee has yet to closely examine the PUREX plant, but that is high on our agenda of areas to pursue.

THE DANGERS OF HANFORD'S MILITARY RADIOACTIVE WASTE

The EIS blandly asserts that all of the military radioactive waste at Hanford can easily be handled to prevent any threat to the public. But the discussion is incomplete; there is no mention of the fact that, as Dr. Taylor testified before my Subcommittee, the inventories of dangerous isotopes in shallow burial are equal to the that resulting from the explosions of several thousand one-megaton nuclear weapons. According to Dr. Taylor: 3.4.3.1

057

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"Release of these wastes by large chemical or small nuclear explosion could produce long-term fallout contamination on the same scale as a major nuclear war." 3.4.3.1

This waste is not only dangerous to people, but it makes Hanford a prime target for attack by terrorists. 3.4.3.7

Nor does the federal government's track record of predicting safe operation at Hanford warrant confidence. In 1959, the manager of Hanford facilities testified before a congressional committee that the single-walled tanks were expected to last for 100 to 200 years. But they had already started to leak, and now 60 of the 149 tanks are either confirmed or probable "leakers." A 1953 U.S. Geological Survey report, which had pointed out that the tanks were potentially hazardous, was classified by the Atomic Energy Commission (AEC) and not published until 1972. In 1968, the AEC also classified a highly critical report by the General Accounting Office. 2.2.12

In the 1960s, AEC had to dig up trench Z-9 at Hanford, which contained about 100 kilograms of plutonium. An AEC report concluded that intrusion of water into the trench could have resulted in "a nuclear chain reaction." It was probably such a 3.4.3.8

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chain reaction or chemical explosion that caused the Kyshtym disaster in the Soviet Union.

THE LINK TO COMMERCIAL HIGH-LEVEL RADIOACTIVE WASTE DISPOSAL

The EIS clearly displays bias toward leaving in place and 3.3.2.1 trying to "stabilize" the waste now in the 149 single-walled tanks by filling the tanks with gravel or sand, covering the area with 18 feet of rock and dirt, and erecting signs on the surface saying, literally, "Don't Dig Here." This bias is reflected in that:

1. DOE's May 1986 Environmental Assessments for the 3 sites 3.3.2.1 selected for characterization as the first repository for commercial high-level radioactive waste (Hanford, Yucca Mountain, Deaf Smith) do not mention a need to accommodate waste retrieved from the single-walled tanks.

2. DOE's unlawful decision to cancel work on selecting possible sites for a second repository was based upon a conclusion that 3.3.2.1 a second repository would not be needed until about the year 2020. But it would be needed sooner, if all high-level radioactive waste at Hanford were to receive geologic disposal

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rather than "stabilization" in place.

The Nuclear Waste Policy Act of 1982 specifically requires all high-level waste to be disposed in deep geologic repositories. DOE 2.4.1.4 claims it need not follow these instructions for waste that may be difficult to retrieve. Thus, it appears that DOE efforts on defense waste and commercial waste are either uncoordinated, or it 2.4.1.2 is politics as usual getting in the way of the best scientific decision.

What happens if the wastes are commingled and are disposed of at a high level repository located at Hanford, but defense wastes meanwhile continue to be generated at a high rate? Where will the additional waste be placed when the Hanford repository is full? It will have to be transported somewhere, which means the transportation issue will have to be dealt with, either now or later. Zero transportation of nuclear wastes from Hanford is not 3.4.2.2 an option.

WHAT TO DO WITH THE EXISTING WASTE

The fact that DOE can even consider leaving some of the high-

level radioactive waste in place is astounding. First of all, it's illegal. The Nuclear Waste Policy Act of 1982 specifically requires deep geologic disposal for high-level radioactive waste, whether military or civilian. Second, it seems hypocritical to leave the military high-level waste in questionable tanks near the surface, when all commercial high-level waste is to be buried in deep geologic repositories. Why is it acceptable to leave the military waste near the surface, when we find it so necessary to bury the commercial wastes in deep repositories?

2.4.1.6

2.2.7

Tank Waste

I believe that the waste in the double-walled tanks should be extracted, solidified, and shipped to a geologic repository not at Hanford. DOE should not leave the waste in the single-walled tanks nor at this time procede with its half baked and potentially dangerous $7 billion plan to cut open these tanks and dig out the sludge and salt-caked wastes. There is now no good method for isolating this waste from the environment. We can only further study possible technologies, while in the meantime creating no new waste.

3.3.1.1

3.3.5.1

The eventual treatment of the waste in the single-walled tanks

may be costly. In testimony before my Subcommittee on June 9, Ben Rusche of DOE told me that the only reason Hanford ranked so low in DOE's site-ranking methodology (which was then ignored) was the cost of building the repository and transporting the wastes to the site. Even though the costs of the Hanford site might be more than those for other sites, he stated--and claimed the National Academy of Sciences backed him up on this--that cost should not determine the final ranking; that there are more important factors than cost in deciding where to permanently repose these dangerous wastes. Now, while I disagree with Mr. Rusche's assertion that cost alone put Hanford in last place (DOE's methodology ranked Hanford last in other respects as well), I agree that dollar cost should not guide the disposal decision. Yet cost appears to be an overriding factor in the military waste EIS. DOE seems to be pursuing the cheapest route here, yet disregards cost when deciding what to do with commercial wastes.

3.1.4.5

Other Wastes

The post-1970 transuranic waste should be shipped to the Waste Isolation Pilot Project (WIPP) in New Mexico, which was built for that purpose. But further study is apparently required before DOE can deal with the older transuranic wastes dumped into the ground.

3.1.3.25

3.1.2.5 The strontium and cesium waste capsules should be shipped to the geologic repository.

OTHER PROBLEMS

I see other problems with the EIS:

2.4.1.8 1. It redefines some high-level and transuranic waste as "low-level."

2.4.1.8 2. It then ignores the significant volumes of low-level radioactive wastes, including those previously defined as high-level or transuranic.

2.3.1.14 3. It fails to plan for disposal of the old reactors at Hanford previously operated for military purposes.

3.1.8.2 4. It merely mentions possible technologies for further processing of the high-level waste to take place after the decision is made on which alternative to adopt. These technologies, such as grout and vitrification, should be discussed in the EIS itself.

5. It assumes that the existing facilities will operate flawlessly, with no accidents.

2.3.1.14 3.1.6.1 6. It fails to consider the hazardous chemical content of the wastes.

3.2.4.1 3.5.6.6 7. It treats the Columbia River as a sewer system, failing to account for harm to fish and downstream users. It also ignores potential flooding and absence of upstream dams.

3.5.1.100 8. It neglects the effects of range fires and subsequent wind erosion of soil.

2.4.2.2 9. It disregards that the Hanford Reservation is part of lands ceded to the Yakima Indian Nation.

4.1.10 10. Washington state authorities believe that DOE has repeatedly and systematically misused references to scientific literature.

I intend to address some of these other problems in my written comments in August.

058

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July 10, 1966

STATEMENT PRESENTED AT THE
U. S. DEPARTMENT OF ENERGY HEARING ON
HANFORD DEFENSE WASTE DISPOSAL

~~Contrary~~ In contradiction to what others have said or implied here today, I believe that the Department of Energy and its predecessors have done an acceptable, if not actually a commendatory and credible, job in handling and storing radioactive

2.3.2.12 wastes at Hanford and other defense sites.

The Department is to be commended for its commitment and efforts to search out alternatives for the disposal of existing and future radioactive wastes at Hanford, to publicize those alternatives, and to solicit comments and suggestions on those alternatives. The Department has a gargantuan task in selecting an acceptable and suitable process or processes for the disposal of these wastes.

2.2.4 A balance in environmental and health protection, radiation exposure and safety measures for workers, and cost expenditures and effectiveness are a must. Our nation simply cannot afford to submit to unreasonable demands such as converting the site back to a "pristine" state when there is so much

2.2.11 demand for use of limited resources. Such expenditures as assisting our nation's poor - yes, and even the world's poor -, cleanup of toxic waste sites, funding necessary defense activities, and the like, must take priority over using unlimited expenditures for extensive actions where the identified benefits are small. Rather, only a balance assuring the health and safety of the public should be necessary or required. Thus, I believe some modification of the combined alternative, if not the exact alternative

3.3.3.1 described in the Draft Environmental Impact Statement, should be selected

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in the final analysis as the chosen alternative.

Angry, frightened, frustrated, and misinformed citizens provide the Department with a tough audience, making the Department's information-gathering and decision-making most difficult. I wish you well, and I plead that the public be patient and understanding of your efforts.

2.3.2.12

(This is no surprise to you as it has been shown today.)

Your final draft, in accordance with law, will include analyses and comments of other government agencies, citizen groups, and individuals, and your responses to them.

98

0059 ENTER INTO RECORDS AS

Commissioner Mike Lindberg
City Hall
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Portland, OR 97204

TESTIMONY OF PORTLAND CITY COMMISSIONER MIKE LINDBERG
ON THE U. S. DEPARTMENT OF ENERGY'S DRAFT ENVIRONMENTAL
IMPACT STATEMENT ON THE DISPOSAL OF HANFORD DEFENSE WASTES
IN THE OREGON PUBLIC HEARING
BONNEVILLE POWER ADMINISTRATION AUDITORIUM,
JULY 10, 1986

MEMBERS OF THE HEARING PANEL, LADIES AND GENTLEMEN, GOOD AFTERNOON. I AM CITY COMMISSIONER MIKE LINDBERG OF THE PORTLAND CITY COUNCIL. I AM HERE TODAY TO MAKE THREE MAIN POINTS REGARDING YOUR DRAFT EIS. FIRST, YOUR WORK TOTALLY NEGLECTS THE ECONOMIC AND PUBLIC HEALTH EFFECTS ON THE CITY OF PORTLAND, THE LARGEST DOWNSTREAM POPULATION CENTER. SECOND, YOU HAVE PRODUCED SUCH A SEVERELY FLAWED AND INCOMPLETE PIECE OF WORK THAT IT SHOULD BE THROWN OUT AND STARTED OVER. THIRD, THE STATE OF OREGON, WHICH COULD BE DISASTROUSLY AFFECTED BY THE CONTINUING UNSAFE STORAGE OF LEAKING RADIOACTIVE WASTE AT HANFORD, DESERVES MUCH MORE THAN THIS ONE PUBLIC HEARING. 3.2.6.1 2.3.1.12 2.3.2.10 2.4.1.5

PORTLAND IS THE LARGEST CITY DOWNSTREAM OF HANFORD'S DEFENSE WASTES. IT, AND OTHER CITIES AND FARMS ALONG THE COLUMBIA RIVER GORGE, COULD BE ECONOMICALLY RUINED OUT IF YOU CONTINUE TO STORE NUCLEAR WASTE USING INADEQUATE METHODS THAT CONTINUE TO LEAK SLOWLY INTO THE RIVER. YET YOUR DRAFT CONTAINS ONLY 5 PAGES ON "SOCIOECONOMICS," AND ALL OF THAT IS ON THE AREA IMMEDIATELY SURROUNDING HANFORD. GENTLEMEN, THAT SIMPLY WILL NOT DO. 3.2.6.1 2.3.1.12 3.2.6.4

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YOU MAY BE ABLE TO PERSUADE SOME PEOPLE THAT PUMPING PLUTONIUM RIGHT DOWN INTO THE WATER TABLE THAT FEEDS THE COLUMBIA RIVER IS SAFE, BUT YOU CANNOT CONTINUE TO IGNORE THE LARGEST MUNCIPALITY ON THE COLUMBIA RIVER. WE WILL NOT STAND FOR IT. 2.3.1.12

THE CITY OF PORTLAND AND ITS CITIZENS HAVE STATED MANY TIMES THAT THEY ARE VITALLY CONCERNED ABOUT WHAT HAPPENS UPSTREAM. A RAPIDLY INCREASING NUMBER OF PORTLANDERS ARE CRITICAL OF THE U. S. DEPARTMENT OF ENERGY'S OPERATION OF HANFORD'S N-REACTOR, ARE WORRIED ABOUT THE STORAGE OF EXISTING DEFENSE WASTES, AND ARE ADAMANTLY OPPOSED TO HANFORD BEING DESIGNATED THE NATION'S ONLY CIVILIAN NUCLEAR WASTE REPOSITORY. THE WEEK OF JUNE 16-20TH WAS "HANFORD AWARENESS WEEK" IN PORTLAND AND INCLUDED, AMONG MANY CIVIC EVENTS, A CITY CLUB ADDRESS ON WHY WE CAN'T TRUST THE U.S. D.O.E. TO SAFELY STORE RADIOACTIVE WASTE. 2.1.1 2.5.5

THE PORTLAND CITY COUNCIL HAS PASSED A NUMBER OF RESOLUTIONS ON HANFORD. ON MARCH 6, 1985, WE OPPOSED HANFORD BEING MADE A FEDERAL REPOSITORY AND REQUESTED THAT CONGRESS GIVE OREGON THE SAME RIGHTS AS WASHINGTON STATE. IN APRIL 1985, I DEMANDED, BEFORE CONGRESSMAN WEAVER'S COMMITTEE, THAT OREGON RECEIVE MONEY TO STUDY WHAT YOUR UPSTREAM WASTE REPOSITORY IS NOW DOING TO US AND HOW IT MAY EFFECT PORTLAND'S ECONOMIC LIFE IN THE FUTURE. JUST A FEW WEEKS AGO I WAS GLAD TO SEE THAT THE GOVERNOR OF OREGON HAS FINALLY SEEN FIT TO JOIN THIS GROWING CHORUS. 2.1.1

ON MARCH 14, 1986, THE CITY COUNCIL UNANIMOUSLY SUPPORTED SENATOR HATFIELD'S DEMAND FOR AN INDEPENDENT AND EXPEDITED U. S. GENERAL ACCOUNTING OFFICE PROBE OF THE N-REACTOR. ON MAY 20, 1986, I ASKED THE NATIONAL ACADEMY OF SCIENCES TO PUT SCIENTISTS AND ENGINEERS CONCERNED ABOUT NUCLEAR SAFETY ON ITS PANEL EXAMINING THE SAFETY OF THE N-REACTOR AND NAMED A NUMBER OF SUCH PROFESSIONALS. AND JUST LAST WEEK I SENT A LETTER TO CONGRESSMAN JIM WEAVER SUPPORTING HIS AMENDMENT TO PROHIBIT THE EXPENDITURE OF FUNDS ON OPERATION OF THE N-REACTOR UNTIL CONGRESS HAS HAD AT LEAST 120 DAYS TO CONSIDER THE RESULTS OF THE D.O.E.'S SAFETY STUDIES AND THOSE OF THE NATIONAL ACADEMY OF SCIENCES.

2.5.6

WHY DID THE CITY COUNCIL ADOPT THESE RESOLUTIONS? BECAUSE THE FINANCIAL LIVELIHOOD OF PORTLAND, ITS BUSINESSES AND RESIDENTS, COULD BE TOTALLY DEVASTATED BY AN ACCIDENT OR LEAK OF RADIOACTIVITY INTO THE COLUMBIA RIVER. THE CHERNOBYL ACCIDENT HELPS US TO PUT REAL NUMBERS ON THE VERY BAD ECONOMIC CONSEQUENCES OF WIDESPREAD RADIOACTIVE CONTAMINATION AND IS, FRANKLY, A TOPIC WHICH YOUR FLAWED EIS SHOULD HAVE STUDIED IN DETAIL IN ITS THREE VERY THICK VOLUMES. HOW CAN YOU IGNORE REGIONAL ECONOMIC COSTS?

2.3.1.12

THROUGHOUT THIS REGION, THE COLUMBIA RIVER IS DEPENDED ON FOR IRRIGATION, SHIPPING, INDUSTRY AND RECREATION. A CONTAMINATED RIVER COULD PREVENT FARMERS FROM IRRIGATING THEIR CROPS, OR, IF THE U.S. D.O.E. WARNED THEM TOO LATE THAT THEIR WATER WAS

3.2.6.4

3.2.6.3

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JUL 14 1986
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RADIOACTIVE, OTHER STATES OR NATIONS MIGHT REFUSE TO BUY THEIR HARVEST. RECENTLY WESTERN EUROPEAN NATIONS REFUSED TO BUY ANY FOODSTUFFS--INCLUDING GRAIN, VEGETABLES, MEAT OR MILK--FROM AN AREA WITHIN 640 MILES OF CHERNOBYL'S N-REACTOR.

3.2.6.3

WHAT IF PEOPLE REFUSED TO BUY OUR FOOD BECAUSE A WASTE LEAK AT HANFORD MADE THEM WORRY ABOUT EATING POSSIBLY RADIOACTIVE WHEAT? HOW MUCH MONEY WOULD THE PACIFIC NORTHWEST LOSE? IN 1984 THE THREE STATES OF WASHINGTON, IDAHO, AND OREGON HARVESTED $1.1 BILLION WORTH OF WHEAT AND OTHER FOOD GRAINS. THIS BILLION DOLLAR HARVEST GREW WITHIN A 640-MILE RADIUS OF HANFORD'S WASTE STORAGE AND N-REACTOR. SO WE COULD LOSE A BILLION DOLLARS A YEAR IF PEOPLE THOUGHT THE COLUMBIA WAS BECOMING RADIOACTIVE AND PRODUCING RADIOACTIVE GRAIN.

3.2.6.3

THE VALUE OF ALL OTHER CROPS GROWN AND SOLD FROM OUR REGION IN 1984 WAS $3.3 BILLION. THE TOTAL OF ALL LIVESTOCK PRODUCTS, SUCH AS MILK AND MEAT, THAT YEAR WAS $2.6 BILLION. SO THE GRAND TOTAL VALUE OF JUST ONE YEAR OF PACIFIC NORTHWEST AGRI-BUSINESS IS $7 BILLION. OMITTING SUCH LARGE SOCIOECONOMIC EFFECTS FROM YOUR DRAFT EIS FLAWS IT SO MUCH THAT IT BECOMES TOTALLY USELESS AS A DOCUMENT FOR MAKING RATIONAL DECISIONS. THE NUMBER OF SUCH OMISSIONS MAKES YOUR DRAFT EIS HIGHLY SUSPECT AND THEREFORE NOT CREDIBLE TO THE GENERAL PUBLIC OR THEIR ELECTED REPRESENTATIVES.

3.2.6.3

WHERE IN YOUR WORK ARE THE OTHER VALUES OF THE COLUMBIA RIVER?

YOU HAVE FAILED TO INCLUDE THE ENORMOUS COSTS OF A POSSIBLE LOSS OF SHIPPING IF EXPORTS DRYED UP AND THE COSTS TO HUNDREDS OF INDUSTRIES OF LOSING THE RIVER AS A SOURCE OF WATER FOR THEIR MANUFACTURING PROCESSES. RECREATION, INCLUDING LEISURE ACTIVITIES ON THE RIVER SUCH AS BOATING, FISHING, AND WIND-SURFING, SUPPORTS MANY SMALL BUSINESSES AND PROVIDES THOUSANDS OF JOBS. YET NO WHERE IN YOUR DRAFT EIS DO I FIND ANY MENTION OF THE POSSIBLE ECONOMIC LOSS TO TOWNS ALONG THE RIVER IF VACATIONERS FAILED TO VISIT BECAUSE THEY THOUGHT THE RIVER WAS RADIOACTIVE. 3.2.6.1

TOURISM NOT ONLY PROVIDES AN ANNUAL CYCLICAL INCOME TO OUR CITY AND TO THE REGION BUT ALSO EDUCATES BUSINESSPEOPLE ABOUT OUR SPLENDID ENVIRONMENT. THEY KNOW THAT BEING ABLE TO WORK IN A CITY THAT SITS ASTRIDE THE CLEAN WILLAMETTE AND COLUMBIA RIVERS, AND WHICH IS ONLY ONE HOUR BY CAR FROM THE OCEAN AND THE MOUNTAINS, CAN SERVE AS A MAGNET TO ATTRACT AND KEEP A SKILLED AND EDUCATED WORK FORCE. YET NO WHERE IN YOUR DRAFT DO I FIND ANY ATTENTION TO THE POSSIBLE COSTS OF LOSING THESE VALUABLE DRAWING CARDS OF ECONOMIC DEVELOPMENT AND NEW JOBS. 3.2.6.8

MY SECOND MAJOR POINT IS THAT YOUR DRAFT EIS IS SO FLAWED THAT IT MUST BE TOTALLY REJECTED AS A CREDIBLE DOCUMENT. THE DRAFT FAILS TO SATISFY THE MINIMUM REQUIREMENTS OF AN ENVIRONMENTAL IMPACT STATEMENT REGARDING CONTENT, SCOPE AND ACCURACY. ALSO, THE EVALUATION PROCESS FOR THIS EIS WAS NOT IMPARTIAL. 2.3.2.10

059

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JUL 14 1986
WM DIVISION
0059

THEREFORE, I SUBMIT THAT YOU HAVE NOT YET PERFORMED AN EIS AND THAT YOU SHOULD BE REQUIRED TO START OVER.

THE DRAFT FAILS TO INCLUDE THE FOLLOWING MAJOR ITEMS. THERE IS NO ALTERNATE SITE SELECTION, NO ALTERNATE "IN-PLACE" DISPOSAL PLAN FOR LOW-LEVEL WASTE, NO IDENTIFICATION OF THE SPEED OF MOVEMENT OF EXISTING RADIOACTIVE POLLUTION TO THE COLUMBIA RIVER, AND NO INFORMATION ON THE RADIOACTIVE TOXICITY OF THAT EXISTING POLLUTION. THIS COMPLETE OMISSION OF ALTERNATIVES MEANS THE DRAFT FAILS ONE OF THE MOST BASIC REQUIREMENTS OF AN ENVIRONMENTAL IMPACT STATEMENT...THE PRESENTATION OF A FULL RANGE OF PRACTICAL OPTIONS TO DO WHAT THE PROPOSING CORPORATION OR AGENCY WANTS TO DO BUT IN DIFFERENT WAYS OR LOCATIONS MORE ACCEPTABLE TO THE PUBLIC. 2.3.1.12 2.3.1.2

THE DRAFT CONTAINS THE FOLLOWING MAJOR ERRORS: IT FAILS TO RECOGNIZE LONG-TERM ENVIRONMENTAL VALUES OR IMPACTS. IT ONLY PRESENTS THE IMMEDIATE AND SHORT-RUN COSTS OF A NARROWLY-DEFINED PLAN. IT FAILS TO SHOW MAJOR GEOLOGIC FAULTS UNDERLYING THE PROPOSED SITE. IT FAILS TO SUPPLY THE BASIC DATA ON THE PROBLEM ...THE AMOUNT, RADIATION LEVEL AND LOCATIONS OF ALL DEFENSE WASTE AT HANFORD. IT FAILS TO SHOW FUTURE WASTE TREATMENT AND DISPOSAL. YOU SIMPLY MUST DO MORE THAN THROW DIRT OVER IT IN OUR BACKYARD. OUR RIVER SYSTEM IS NOT A BOX OF KITTY-LITTER! 2.3.1.2

THE EVALUATION PROCESS OF THE DRAFT FAILS IN THAT THERE ARE NO

2.3.2.9 IMPARTIAL EXPERT REVIEWS. WHERE ARE THE INDEPENDENT EVALUATIONS BY COMPETENT TECHNICAL PROFESSIONALS OF THE NATIONAL ACADEMY OF SCIENCES, THE U. S. GEOLOGICAL SURVEY, THE U. S. ENVIRONMENTAL PROTECTION AGENCY, AND THE NUCLEAR REGULATORY COMMISSION?

LADIES AND GENTLEMEN, THIS IS A NATIONAL ISSUE AND SHOULD BE DEALT WITH AS SUCH BY THE APPROPRIATE FEDERAL SCIENTIFIC, GEOLOGICAL, ENVIRONMENTAL, AND NUCLEAR REGULATORY AGENCIES.

2.3.2.9 THERE IS ABSOLUTELY NO JUSTIFICATION FOR CONTINUING TO LET DOE
2.5.5 PROCEED INDEPENDENTLY. FOR WITH THIS DRAFT DOE HAS AGAIN PROVEN ITSELF INCOMPETENT TO DO THE WORK.

90

MY THIRD MAJOR POINT INVOLVES THE LACK OF A COMPREHENSIVE PUBLIC INVOLVEMENT PROCESS FOR OREGON. AFTER YOU PUT IMMENSE QUANTITIES

2.4.1.5 OF ATOMIC BOMB WASTE NEXT TO OUR RIVER OVER A SPAN OF MORE THAN 40 YEARS, WE DESERVE MUCH MORE THAN ONE DAY IN WHICH TO VOICE OUR DISSENT OF YOUR PROCESS AND TO REBUKE YOUR INSUFFICIENT ATTENTION TO DETAIL.

THEREFORE, I OBJECT IN THE STRONGEST POSSIBLE TERMS TO THIS SHODDY PIECE OF WORK THAT YOU ALLEGE TO BE AN ENVIRONMENTAL IMPACT STATEMENT. AND I CALL FOR COMPREHENSIVE LEGISLATION

2.4.1.1 WHICH WOULD REQUIRE THE ENTIRE HANFORD COMPLEX TO MEET LEGAL AND PUBLIC PARTICIPATION REQUIREMENTS OF COMMERCIAL U. S. REACTORS AND HAZARDOUS WASTES. IT IS VITAL THAT HANFORD BE REQUIRED TO MEET ALL FEDERAL AND STATE ENVIRONMENTAL LAWS, AS PROPOSED BY

059

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JUL 14 1986 0059
WM DIVISION

CONGRESSMAN RON WYDEN.

I BELIEVE THIS IS THE LEAST THAT PORTLANDERS AND THEIR FELLOW PACIFIC NORTHWEST CITIZENS HAVE A RIGHT TO EXPECT FROM THEIR LEADERS, THEIR GOVERNMENT AND FROM THE AGENCIES WHICH SERVE THEM.

FINALLY, PORTLANDERS HAVE A RIGHT TO KNOW THE NAMES AND QUALIFI- 2.3.1.12
CATIONS OF THE AUTHORS AND REVIEWERS OF ANY FUTURE REPORTS THAT CAN AFFECT THEIR LIVES IN SUCH A MAJOR WAY. THE DRAFT ASKS US TO ASSUME MAJOR RESPONSIBILITIES AS CITIZENS. CAN YOU NOT FIND COMPETENT PROFESSIONALS WHO WILL PUT THEIR NAMES ON THE COVER OF YOUR REPORTS AND ASSUME RESPONSIBILITY FOR THEIR CONCLUSIONS?

THANK YOU.

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TESTIMONY OF
DAN SALTZMAN, VICE-CHAIRMAN,
OREGON HANFORD ADVISORY COMMITTEE

ON THE

HANFORD MILITARY WASTE
DRAFT ENVIRONMENTAL
IMPACT STATEMENT

July 10 1986

PD555.007.1

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The US DOE must owe up to the problems created by 40 years of improper storage of military waste at Hanford.

Reading between the lines of the draft environmental impact statement (DEIS) there is a consistent suggestion that the "reference" cleanup alternative combines the "best" of all options and provides a practical level of long-term protection. That is a questionable assertion considering the significant quantity of high-level wastes (HLW) that would be left in-place in aged and fatigued single-wall tanks under the reference alternative. 3.3.3.1

Many compelling reasons to remove all high-level wastes from tanks and trenches have been presented today.

But let's consider probably the most obvious condition that should eliminate the reference alternative from further consideration: The potential for massive flooding and erosion of the the 200 storage area--the home of the high-level waste tanks. 3.5.6.7

The likelihood of massive flooding of the Columbia River Basin dictates that all HLW wastes must be removed and entombed in a deep repository, not left in tanks a few feet beneath the surface or in trenches. 3.3.1.1

PD555.008.1

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Closer inspection of two of the department's own studies of flood potential sharply contradict the DEIS downplaying of flood risks.

In the DEIS summary is the statement:

3.5.6.8 "The waste is at an elevation that would not be reached by any reasonably postulated surface flood. The potential for flash flooding is remote."

This confidence is undermined by the department's two prior reports.

In a 1983 Battelle assessment of military waste issues, the authors conclude:

3.5.6.8 "A major flood would be nature-induced...[and] could exhume the waste by innundation of both waste storage areas. The occurrence of such a...flood is estimated to be...very likely in 10,000 years." (1)

3.5.6.8 The impacts of such a major flood on the buried waste are assessed in a 1985 Kent State/Battelle report. In that report, we are introduced to the specter of the great Missoula flood and its threat of erosion of the 200 storage area. According to the report:

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"[A] great deal of re-working of sediment would occur within the Pasco Basin during a Missoula flood...we conclude...that instability of at least the top meter of the [200 area] surface material would occur...we consider quite likely that greater depths of sediment would be involved in transport during such a flood..." (2)

So you see, the long-term risk of a major flood is a very real one. A flood -- the mixing of water with waste -- is the worst possible scenario in terms of causing widespread contamination of our Columbia River and of our agricultural lands.

The department must not belie its own commitment to clean up the problem by advocating, an unsound option that would leave part of that problem in unsafe tanks or trenches.

All high-level wastes, defined according to EPA's definition, must be cleaned up, glassified, and buried in an acceptable deep geologic repository. 3.3.1.1

Finally, let me echo the need for a tangible good faith gesture from the department that will show Northwest residents that we are on the verge of action with respect to cleaning up a 40 year old problem, not more studies, research and the like. 2.2.1

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A fiscal year 1988 budget with funds for constructing a waste vitrification plant is but one sign of good faith.

We are tired of promises that are not backed up with a commitment of resources. To talk about cleaning up the military waste on one hand, and to then request FY 1987 budget authorization to construct additional surface ponds in which to dump PUREX and N-Reactor radioactive liquids is a slap in the face to a region that has borne, for the sake of national defense, the risks from improper waste storage for over forty years. 2.2.9

PD555.008.4

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(1) Battelle Pacific Northwest Laboratory. Assessment of Single-Shell Tank Residual Liquid Issues at Hanford Site, Washington. June 1983. DOE Contract DE-AC06-76RLO 1830.

(2) Battelle Pacific Northwest Laboratory/Kent State University. Erosion Potential from Missoula Floods in the Pasco Basin, Washington, December, 1985. DOE Contract DE-AC06-76RLO 1830.

PD555.009.1

Comments of Richard Belsey, M.D. regarding the
Hanford Defense Waste Environmental Impact Statement

I am Richard Belsey, a physician, a member of the Portland Chapter of Physicians for Social Responsibility and a member of the Oregon Department of Energy Hanford Advisory Committee.

I would like, first, to convey some citizens' reaction to the Defense Waste EIS expressed during a public information meeting sponsored jointly by the US Department of Energy and the Oregon DOE Advisory Committee on Hanford. A number of people were concerned that the agencies and individuals responsible for the development and management of nuclear defense weapons production had not planned for the safe and permanent disposal of the huge volume of high level radioactive wastes associated with their production. Furthermore, they were concerned that an important question, which they thought should have been asked forty years ago, still needs to be asked today: "Does continued production of plutonium for nuclear weapons at Hanford or anywhere else any site in this country increase or decrease the security of the people of this country?" 2.5.5

Permanent and safe disposal of the forty year accumulation of radioactive wastes generated during plutonium production and purification for use in nuclear weapons is essential because current "temporary" storage strategies, the "No Disposal Action" alternative, have been inadequate. There is a high likelihood that these systems will continue to fail and it is a virtual certainty that they will be unable to contain the high level nuclear wastes for the required term. I cannot feel confident that current and past activities and the known radioactive releases from the Hanford site have NOT already been a threat to the health of Oregonians. The US Department of Energy has tried to reassure us that the public health and safety of individuals in the region have not been compromised but some authorities have questioned the assumptions on which their judgment is based. In reading this environmental impact statement I am particularly struck by the inadequacy of information about potential biologic effects of the alternatives for permanent disposal of radioactive wastes resulting from plutonium production at Hanford. Consequently, the statement is seriously flawed and should be expanded and corrected before any further action is considered. 2.2.1 3.3.1.1 2.5.5

An expert panel concerned with the long-term management of commercial nuclear wastes recommended that the safest method would be disposal in a deep geologic repository. This also seems to be the safest way to deal with radioactive waste produced during the production of plutonium for nuclear weapons. I believe that removal and disposal of all high level nuclear waste from the Hanford site and its storage in a deep geologic repository is the safest and most reassuring of the offered options. The engineering solutions proposed in the "In-Place Stabilization" and "Reference" alternatives involve new, unproven, technology which will have to maintain its integrity for thousands of years if it is to protect the environment and proximal populations. This is unprecedented and it is likely that the technology will, sooner or later, fail. What will be the impact on the people and the economy of the region when high level radioactive wastes get into our water and into the food chain? Will the country's population, at that time, be willing to invest their resources to deal with what is, then, only a regional problem? 3.3.1.1

In dealing with the health and safety of people in this region it is

2.2.1 difficult to think about permanent disposal of these high level nuclear wastes in cost-effective terms. To think about saving other people's money at the cost of potential health hazards to this region is very difficult. Cost effective analysis is only appropriate when the same population has to
2.2.3 carry the burden of cost-effectiveness tradeoffs. It is apparent, from the recent political decisions about the second geologic repository, that the rest of the country is not ready to have a nuclear dump in their backyard and would rather put it where no one lives, out here in the West. We also know that Hanford and the other sites being considered for a deep geologic repository were chosen because people in the rest of the country still think that no one lives here.

2.1.8 I am deeply concerned by the decision of the President and the Department of Energy about the second geologic repository. Because of their decision to plan for only a single geologic repository, I feel as though this EIS and these hearings may simply be a bureaucratic charade. I hope not, but
3.3.5.7 the volume of high level nuclear waste now stored in single and double-walled tanks, in cribs, in ponds and in covered canisters and containers on the Hanford Reservation would probably require at least a doubling of the repository capacity. I am afraid that the hidden message from the President and the Department of Energy is that we will have to live with less than the safest means of disposal and the decision will be couched in "cost-effective" language. I think that the Department of Energy should look seriously for less expensive ways to safely remove all of the current high level radioactive
2.2.3 wastes at Hanford. If the costs cannot be safely reduced, then the the country should, in this case, pay the price of assuring the safest possible disposal alternative because it is the people of the region that will live with any potential hazards for thousands of years.

94

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I AM RUTH CLARK LIVE AT 10632 S.W. CORTE LANCASTER Rd, PORTLAND 97219. MEMBERS OF HANFORD EXCLUDING A CHERNOBYL-TYPE ACCIDENT OR A NUCLEAR WAR, AS AN ALREADY OLDER PERSON, I PROBABLY WILL NOT BE AROUND 30-40 YEARS FROM NOW TO SUFFER FROM THE ACCUMULATION OF A LIFETIME EXPOSURE TO RADIATION FROM THE ENVIRONMENT OR FOOD CHAIN. I AM SPEAKING FOR THE YOUNG OF TODAY AND THE YET-TO-BE BORN.

THERE ARE 2 AREAS THAT NEED TO BE ADDRESSED.

1. THE CURRENT WASTE NEEDS TO BE DISPOSED THAT CONTAINS ANY HIGH OR LOW LEVEL RADIOACTIVITY NEED TO BE DISPOSED IN A MANNER THAT WILL NOT EXPOSE HUMANS, ANIMALS AND OUR ENVIRONMENT. HANFORD SITE HAS BEEN PROVED TO BE UNSUITABLE. 2.1.1
2. THE CONTINUED PRODUCTION OF WASTE MUST CEASE. OTHER SOURCES OF ELECTRICITY MUST BE FOUND INCLUDING BETTER CONSERVATION BY CITIZENS AND INDUSTRY. PLUTONIUM IS THE BY-PRODUCT OF WASTE — BUT IS NO LONGER NECESSARY — WE ALREADY HAVE ENOUGH NUCLEAR WEAPONS TO ANNIHILATE THE WORLD. THE HANFORD REACTOR MUST BE CLOSED. 2.5.6

REGARDING THE HANFORD SITE THERE IS ALREADY LEAKAGE DOWN THRU THE BASALT AND WILL SOON REACH THE GREAT COLUMBIA RIVER, AFFECTING ALL LIVING THINGS IN ADJOINING AREAS OF WASHINGTON AND OREGON. SECONDLY, THE PROPOSED TRANSPORTATION OF WASTE FROM THE EAST & SOUTH BY TRUCK WILL EXPOSE ALL TO THE RISKS OF ACCIDENTS FROM HUMAN OR MECHANICAL FAILURES. THE SAFETY OF FUTURE GENERATIONS IS AT STAKE — THAT'S WHY I AM HERE NOW. 3.4.2.2

I HAD NO TRUST OF THE OLD ATOMIC ENERGY COMMISSION WHEN IT WAS CARRYING OUT ABOVE-GROUND TESTING IN THE EARLY '60'S — NOW THESE ARE OUTLAWED. I ALSO HAVE NO REASON TO TRUST THE DEPT. OF ENERGY — 3 MILE ISLAND COULD HAVE BEEN PREVENTED BY YOU. WE HAVE BEEN LED TO IN THE PAST. WE ARE NOW FINDING OUT. WHAT ELSE HAVE YOU COVERED UP? THE HANFORD WASTE SITE IS A DISASTER WAITING TO HAPPEN. FINALLY, AS A CONSUMER, I WILL NEVER CONSCIOUSLY PURCHASE IRRADIATED FOOD. 2.5.5

July 10, 1986

U.S. Department of Energy
Hanford Hearings, Portland OR.

3025 NE 36th Ave
Portland OR 97212

Good afternoon. My name is Russell Plaeger. I'm a homeowner here in Portland and have lived in the Columbia River region for 10 years.
Thank you for the opportunity to comment on the proposal to store nuclear waste at Hanford.

My family and I have just returned from two months in West Germany. We arrived there on May 1st, 5 days after the Chernobyl accident. What we experienced was not knowing whether the food was radioactive and whether it was safe to feed to our baby. On a daily basis we had to face the uncertainty regarding the food, drinking water, and even decisions as simple as whether to lie in the grass or go out in the rain. Aside from any physical effects we may have experienced this certainly produced a level of psychological stress.

We tried to keep ourselves informed but the information was inadequate and often contradictory. Frankly I don't think the government or news media really knew what or how much to tell the people. And worse they may not know how to handle this type of accident. We understand from friends that a similar situation existed here in the Northwest. This raises the issue of how is the public to get usable, accurate information to protect themselves from such accidents. And worst of all there simply may be no way to deal with incidents of this magnitude.

(no comment identified)

063

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We had to avoid eating fresh milk and dairy products, vegetables, and fruits unless they came from outside the fallout area or were produced prior to the accident. Fortunately such sources were available but it is conceivable that food shortages could occur depending on the scope and duration of radioactive contamination. Even as we left at the end of June the debate was continuing as to the safety of city drinking water supplies from surface reservoirs and the contamination of food fish in those reservoirs.

In the city we were living in in Germany, the background level of radiation is still twice the pre-Chernobyl level, even since the radioactive Iodine has decayed. That means, presumably, that there is a significant amount of radioactive Cesium and Strontium in the soil. That will last a long time: the half-lives are about thirty years.

As visitors you have the freedom to leave in the event of a problem such as this. When it's your home you are tied to the region by social and economic factors and often must stay regardless of the consequences.

Presumably there is also Cesium and Strontium from Chernobyl here in Portland; I don't know how much. What you are deciding is whether to place further radiation danger near our homes. We live here. We don't want to leave and we don't want the people of the Pacific Northwest to be in a similar situation in the future; tied to an area

(no comment identified)

with radiation hazards. We had our taste of radiation accidents and I believe the people here will tell you they've had enough and want no more here in our homes.

3.4.3.1 My experiences in the aftermath of Chernobyl have reinforced my opposition to the storage of waste at Hanford and the production of nuclear weapons and energy. I would oppose
2.1.1 Hanford even if it didn't have inherent risks such as geological problems and close proximity to the Columbia River.
3.3.1.1 The fact that the cost of this site is higher than the others being considered is also a reason to not select it.

We've all been living under the shadow of nuclear weapons and energy for many years now. But we've all been guilty of denying how widespread and devastating the consequences of an accident could be or even simply denying that accidents would occur.

The broader issue is the production of nuclear waste which perpetuates the problem of storage. The DOE and other agencies must address the issue of reducing waste
2.5.6 production. If we use nuclear materials as inefficiently as we use energy or food then we produce much more waste than we need to.

We don't want a waste dump at Hanford; in
2.5.6 fact we'd urge that the Hanford facility be closed.

LEAGUE OF WOMEN VOTERS OF OREGON
317 Court Street N.E., Suite 202 Salem, Oregon 97301 (503) 581-5722

TESTIMONY BEFORE THE U.S. DEPARTMENT OF ENERGY
Portland, Oregon July 10, 1986

Re: Draft Environmental Impact Statement on Disposal of Hanford Defense High-level, Transuranic and Tank Wastes

The League of Women Voters of Oregon believes the federal government in full cooperation with the affected states and Indian Nations must do everything necessary to obtain and maintain a permanently safe and healthy environment regarding the disposal of the Hanford defense wastes.

The League of Women Voters believes the public should be involved in each step of the decision-making process, particularly since decisions regarding each type of waste in its particular situation will be made on a continuing basis for many years to come. Regarding these Records of Decision, we believe it is imperative that each action in the disposal process must be thoroughly analyzed, proven to be technically valid, and undergo independent expert review and full public discussion. 2.5.5

We also feel each action in the disposal process must not preclude further actions which might be desireable for other aspects of the entire system. Furthermore, an adequate tracer and monitoring system should be established which should extend into the postclosure period for a long time. 3.3.4.2

One of our concerns is that the U.S. DOE must use the same environmental standards as the Nuclear Waste Policy Act intended and not bypass them under the Atomic Energy Act. Defense waste standards should comply with state and federal requirements to assure protection of groundwater quality. 2.4.1.1

League members agree that the solution should be as cost effective as possible, but the cost issue should not determine the choice of the disposal alternative. In that regard, we are gravely concerned about the tone of the draft EIS which seems biased against the geologic disposal alternative due to cost. 2.2.4 3.3.1.2

In reviewing the draft EIS and comments of others, we concur with the states' of Oregon and Washington requesting more information on the four alternatives proposed and inclusion of discussion of the other 23 disposal methods not discussed. For example, Washington's Department of Social and Health Services Office of Radiation Protection in its draft review paper questions the reliability of the 3.3.5.2

multi-layer protective barrier system for the shallow burial sites. The concern is with water intrusion due to increased irrigation in the future or change in the water level of the Columbia River Basin from the removal of dams, or weather pattern changes such as an arid spell killing the vegetation on the barrier and wind removing the soil. Also, consider the tiny ant. Remember the song, "Whoops, there goes another rubber tree plant?" The Washington agency points out that already in two different locations in the 200 Area harvester ants and termites have burrowed into waste and resurfaced radioactivity.

3.5.1.101

More data needs to be collected concerning groundwater flow and groundwater contamination risks due to activities over the very long term, such as seismic events, flooding, climatic changes, drilling for gas and other resources, and increased human and animal activity.

3.5.6.40

We have concerns about the coordination of all facets of transportation of wastes, such as lines of authority, responsibility, procedures, enforcement of regulations, routes, emergency procedures, funding of equipment, training of personnel, safety of equipment, enforcement of security measures, emergency stations, and risks due to hazardous weather, to mention some.

3.4.2.24

The League of Women Voters has a deep concern over the recent decision to abandon the search for a second repository in the East. We feel it may "color" the decision to stabilize in place the defense wastes at Hanford rather than removal to a repository. It could have a profound influence on the decision to site the commercial repository at Hanford. It could affect the design and size of the commercial repository due to commingling. It is imperative that all of the on-going production activities at Hanford producing wastes, as well as the "non-retrievable" low level, transuranic, and hazardous chemical wastes on the site be factored into the system and should be thoroughly discussed in an EIS.

3.3.2.1

Furthermore, the EIS must address the impact permanent waste disposal at Hanford would have on the cultural activities of the Yakima Indian Nation and the other two affected tribes.

2.4.2.1

Finally, the League of Women Voters of Oregon believes it is the responsibility of the federal government to take all the time, testing, resources, expertise, and discussion necessary to do the job right, because the social, environmental, and economic well-being of the region is at stake. The people of Oregon want to be assured that our agricultural, recreational, and industrial economy will continue to flourish.

2.2.1

Kristine Hudson, President
5038 S.W. Idaho
Portland, OR 97221

Norma Jean Germond
Columbia River Task Force Rep.
224 Iron Mtn. Blvd.
Lake Oswego, OR 97034

July 10, 1986

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Dear Secretary of State: I am a grandmother

I recommend that you do not produce nuclear waste at Hanford do not accept waste at Hanford, and that you clean up the place so that it no longer is contaminated. 2.5.6

I only wish that you and I could pay the bill for this, and not our grandchildren.

Sincerely,
Alberta Germond

1128 Davis St
Portland, Oregon 97232

303 W. 9th Street
Port Angeles, Wash.
July 13, 1986

Rich Holten/EIS, U. S. Department of Energy
Richland Operations Office
P. O. Box 550
Richland, Washington 99352

Mr. Holten:

Since Washington State already takes all of the nations' low-level nuclear wastes, WHY should we be the only ones taking the high-level wastes also??? Most of those wastes are generated on the East Coast so why should all that garbage be shipped out West? Is it a case of we don't want it you take it????

I believe we are being made the scape-goats of the bureaucracy--not enough political clout. MAny in some parts of the country are still under the impression that wild Indians and buffalo still roam the wide open spaces.

3.3.5.2
2.5.6
I also believe wherever these nuclear wastes are generated, they should be buried in the states producing them and not dump them on someone else. Most of all, I believe all nuclear activity should be abandoned for the good of mankind. Man with his vast knowledge will eventually destroy himself. Adm. Hyman Rickover, known as the father of the nuclear Navy has said and I quote, "The world's destruction by nuclear weapons or accidents at nuclear power plants was inevitable unless they could be scrapped." Unquote. This statement by Rickover should be heeded by all proponents of the nuclear industry.

2.2.12
The "expert" scientists say, the wastes being buried at Hanford are safe. Are they absolutely sure or are they only guessing on that assumption? The wastes already buried at Hanford weren't supposed to leak for hundreds of years. So why are they already leaking???

2.1.1
Washington State must fight very hard to keep those high-level wastes from being entombed in our state. It is too close to the mighty Columbia River--a source of water for many plus food fish for human consumption. Can those "experts" guarantee no harm to the river or the environment in years to come??

Sincerely yours,

L.F. Letvala

Testimony Before the Dept. of Energy Concerning
Defense Waste at Hanford
Seattle Washington
July 15, 1986

My name is Carole Woods and I represent the Seattle King County Nuclear Weapons Freeze Campaign.

I submit that the Dept. of Energy is inaccurately named; and that a more accurate name would be the Dept. of Nuclear War Materials Production. In 1982 James B. Edwards, Secretary of the Dept. of Energy said:

> "We're going to be needing more plutonium for our weapons program; and the best way I can see to get that plutonium is to solve the commercial waste problem - reprocess it... pull out the plutonium."

2.1.3
Additions to the plutonium extraction facilities now underway at Hanford will give the Dept. of Energy the ability to extract plutonium from the commercial nuclear fuel that is to be stored in the repository.

2.2.3
The problem with this is that in the past, whenever the Dept. of Energy's efforts to produce plutonium have caused adverse health effects to the public, the health of the people has been given second priority as in the cases of uranium miners in the southwest, and sheep farmers in Utah. I fear that the health of Washingtonians will also be judged a necessary cost of the arms race.

2.5.5
We know that at least 1.1 million curies of radioactive iodine were released from Hanford in the 25 year period from the mid 1940's through the 1960's. We also know that there were at least nine severe airborne releases of ruthenium during the 1950's. Hanford managers considered and rejected the course of issuing a health warning to the contaminated cities; and, according to recently declassified documents, one reason for not warning them was the fear of damaging public relations. This is another example of bomb production taking precedence over the health of the American people. We are told that more nuclear weapons are needed in order to defend us from the Soviets. My question, however, is what will defend us from Hanford?

2.5.5
Under Dept. of Energy guidelines over 12 million cubic meters of soil at Hanford were contaminated with nuclear waste. The Dept. of Energy changed its definition of contaminated soil so that there were only one million cubic meters of contaminated soil. Poof! Eleven million cubic meters of contaminated soil vanished by the stroke of a pen. Is this the sort of handling of defense waste we can expect in the future?

2.5.6
We know that even today the PUREX plant at Hanford emits a brownish-green plume of nitrous oxide smoke which contains plutonium oxide particles. We know that sand in a playground in Spokane was found to contain ten times the national average of plutonium which, if inhaled, causes lung cancer. In fact, the contamination of the area around Hanford is comparable to the contamination of Nagasaki Japan after the plutonium bomb was dropped there. Ironic, isn't

(it? Indeed, if the Soviets were to contaminate our land in this way we would call it an act of war.

When I consider the alarming information about past radioactive releases from Hanford's plutonium production I cannot help but be frightened at the thought of what we might not yet know about Hanford. The Dept. of Energy's cloak of secrecy does not diminish my concern, especially with this new category of secrets, Unclassified Controled Nuclear Information created by and for the Dept. of Energy.

2.5.5

I am not content that the Dept. of Energy not only sets radiation standards for Hanford, but monitors itself and is trusted to voluntarily report excess releases of radiation.

I am not reassured by the Dept. of Energy's evident preparation to run commercial nuclear fuel; such as that to be stored in the repository, through its plutonium extraction process. Surely this will mean the PUREX plant and the Laser Isotope Separation plant will run long and hard for many years to come, and radioactive pollution of eastern Washington and the Columbia River will worsen.

2.1.3

The only solution I can see is to:

- Honor the spirit of the Nuclear Weapons Non-Proliferation Treaty and quit preparing to use the peaceful atom for bombs
- Shut down PUREX
- Shut down the N-reactor
- Store commercial nuclear waste above ground at the reactor sites; and
- Institute independent oversight and monitoring at Hanford.

2.5.6

3.3.4.2

2.2.1.3

99

Carole Woods
2925 Fairview E. #15
Seattle, Wa. 98102

Statement of Anne Bringloe for

The Sierra Club

on Disposal of Hanford Defense High-Level, Transuranic and Tank Wastes Draft Environmental Impact Statement

July 15, 1986

I am Anne Bringloe, Chairman of the Sierra Club Regional Vice-Presidents Forum and Chairman of the the Forum's National Nuclear Waste Caucus. The Sierra Club is a national environmental organization with a membership of 380,000 with 16,500 members in the Northwest Region.

We appreciate the opportunity to express our views at this and other regional hearings.

Members of the Sierra Club in Washington and Oregon have carefully studied the Draft Environmental Impact Statement issued and conclude that it is clearly deficient and must be re-written. Considering the grave nature of the actions considered in this DEIS, we implore the Department of Energy to carefully consider the additions and suggestions made at these hearings and to invest the time and funds necessary to produce a document which is complete.

2.3.2.10

The most glaring absence in the DEIS is the missing alternative, the Clean-Up Alternative. The option of complete isolation of the defense wastes which would include the contaminated soil under or near tanks, the contents of leaking tanks and tanks due to begin leaking, and the transuranic wastes in various landfills, is never presented. It is excluded and replaced by various and poorly documented excuses for its absence.

2.2.11

Any Environmental Impact Statement referring to the defense waste at Hanford but lacking a complete analysis of the Clean-Up Alternative is unacceptable, and is insulting to the present and future citizens of Washington and Oregon who must live with the constant threat of contamination.

2:2.11

Also conspicuously absent from this and most DOE Hanford documents is a discussion of the impact on the Northwest of the ongoing creation of the national sacrifice area for defense and nuclear industry waste. Discussions of local employment trends, public service requirements, and even long-term pollution threats to Washington do not address the cumulative negative impact to many of the state's important industries including agriculture, and tourism. Also, the ability of the state to attract new industry may be significantly impaired by the presence of an ever-growing

3.2.6.3

068

national nuclear dump.

3.2.6.3 A cursory review of the history of nuclear activities at Hanford shows that progress toward safe and responsible handling of wastes has been slow, punctuated by failed technology, accidents, cover-ups and most recently a blatent disregard for the requirements of the Nuclear Waste Policy Act which requires construction of a second high-level geologic repository.

3.5.4.8 Further evidence of "business as usual" at Hanford is all too obvious. For example, at the DOE Seattle workshop on defense waste preceding this hearing, a representative from Battelle, a DOE contractor, who was participating in the Environmental Impacts Working Group glibly answered a question concerning groundwater transport of radionuclides to the Columbia River. He stated that there would be no impacts of concern even if all the waste in question flowed into the Columbia River due to the river's capacity to dilute the waste. This "expert" view is corroborated in section 5.5.4.1 of the DEIS which addresses long-term impacts of the No Disposal option.

2.5.5 The belief by DOE and its contractors that virtually no health effects would occur under severe failure conditions because of the Columbia River's capacity to dilute waste only confirms the public's fears about the intent and capability of the agency to responsibily address the hazards of nuclear waste.

2.5.5 The DOE has budgeted $5 million dollars for the current year for Hanford public relations. Ironically, previous public relations activity which attempted to allay public concern has only intensified concern and angered citizens. Now, well informed citizens have learned from experience to question every statement and every action taken by DOE and its contractors.

2.3.2.9 The seminal issue in all nuclear waste programs is Federal credibility. The only sure path to address public concern and distrust is with full and independent technical and programmatic review. The costs of such state or agency oversight of the Defense Waste program must be assumed by the DOE just as affected states and Indian tribes are funded under the Nuclear Waste Policy Act.

2.5.5 Continuation of the Defense Waste and other nuclear waste programs reliant upon current DOE methods of mollifying legitmate concern is a heinous breach of responsibility to the citizens and laws of the United States.

2.5.5 Surely, the history of failed programs and projects, and the degradation of the environment will continue unchanged until a commitment is made by the DOE to the discovery and full disclosure of the truths concerning nuclear waste, including the time and funds actually necessary for safe and permanent isolation.

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Sierra Club Northwest Office
1516 Melrose Avenue
Seattle, Wa. 98122

069

LEAGUE OF WOMEN VOTERS OF WASHINGTON

111 MONROE CENTER 1810 NW 65th STREET SEATTLE, WASHINGTON 98117 206-783-6683

Comments on the U. S. Department of Defense
Draft Environmental Impact Statement on Defense Waste
July 15, 1986

I am Ruth Coffin, President of the League of Women Voters of Washington. Our comments are on the subject EIS and on the overall waste disposal process entrusted to the Department of Energy.

The League of Women Voters has benefited from a close and cooperative relationship with the Washington State Nuclear Waste Board, the Office of Nuclear Waste Management, and the Nuclear Waste Advisory Council on which two of our members serve. We have also observed or participated in a variety of meetings and workshops relevant to defense waste and/or waste management at Hanford. We generally defer to and concur with the comments under preparation by the Nuclear Waste Board and undergoing extensive coordination within the state prior to the August 9th deadline for public comment. While we recognize and expect that those draft review comments may be further refined, we are most appreciative of the openness of our state officials in circulating their issue analysis at public meetings throughout the state and for their receptivity to citizen viewpoints.

One characteristic of the State of Washington's approach we wish you would emulate is an avoidance of the project-specific or programmatic approach to complex technical and policy issues which are frequently inextricably interrelated, irrespective of the class of waste. The general public really cannot cope well with your compartmentalization of the issues. Likewise, your failure to provide non-technical explanations, questions and answers, and other tools which the non-expert citizen has the time and facility to comprehend discourages understanding and participation in this very important question of public policy. 4.1.1

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We of the League of Women Voters share the State of Washington's belief that this process is not the usual type of EIS review. We are emphatically not in the position of marshaling arguments against a major federal action. Instead, we are all responsible for helping you find ways to ensure through remedial measures and planning that Hanford defense wastes are disposed of safely and effectively. The League endorses the generally supportive stance of our state towards the USDOE's commitment to improve waste management at Hanford. In return, we urge you to cooperatively assist in meeting the program requirements of the Washington State team and, specifically, to anticipate and comply with the public's continuing need for timely, accurate and complete information. 2.3.2.12

With respect to the draft EIS, we have three major concerns to express.

(1) We urge you to revise the analysis in both scope and structure to provide for a systems approach to an integrated disposal strategy for both the radioactive and associated chemical wastes. The latter have not gotten the treatment their presence at Hanford and the hazards they present warrant. The State will outline in its review comments an alternative technical concept for their handling. This concept should be investigated by the USDOE. 3.3.5.8

(2) We urge you to revise the analysis to expressly consider the technical implications of presidential decisions: the first, to commingle defense wastes in a repository and the second, to indefinitely postpone the second repository program and possible amend the Nuclear Waste Policy Act of 1982 to increase tonnage limits. We share the concern that there may be an underlying assumption that the single-shell tank wastes are to be stabilized in place. Such an assumption has ramifications for the engineering design and capacity of a deep repository. The State of Washington questions if there is an sufficient volume of intact basalt in the Cohasset flow, and if the site may be 2.1.3 3.3.5.7 2.1.1

101

2.1.1 unsuitable in terms of geology and hydrology. If the State's concern proves warrented, site characterization would be inappropriate. From our vantage point, there is no question that this DEIS is the place to discuss these issues. It is also the place to present and analyze the impacts of the alternative
2.1.7 approaches to post-closure monitoring in a deep repository. We also expect the USDOE to fully evaluate in this DEIS how the alternatives for permanent defense waste disposal might interfere with or prevent effective technical monitoring of a repository, particularly in the earlier post-closure years.

2.3.2.10 (3) For the USDOE to adequately respond to these two areas of concern, it will be necessary to make major revisions in the technical concepts in this DEIS and accompanying references. That, in turn, compels circulation of a revised DEIS and adequate opportunity for review and comment by affected states and tribes, as well as the general public. We believe that, while the present DEIS contains much useful information, it is defective in scope and analytical content. Unfortunately, its logic has given rise to the belief that a decision may have already been made to stabilize wastes in place. If this is the "preferred
3.3.2.1 alternative", it has not been so identified. If the Department
2.3.2.2 is not forthcoming about that intent, it will be viewed as a violation of the National Environmental Policy Act (NEPA).

102

Testimony of Senator Al Williams on The Draft Environmental Impact Statement on Disposal of Hanford Defense Waste

Seattle, Washington
July 15, 1986

Good afternoon. My name is Al Williams. I am the chairman of the Senate Energy and Utilities Committee in the state of Washington. I appreciate the opportunity to present testimony on the Draft Environmental Impact Statement on the disposal of Hanford defense waste.

The existing defense waste on the Hanford reservation is the result of some 40 years of military activity conducted in the name of national security. As a result of these activities, 340,000 curies of radioactive iodine were released during 1945; 5,000 curies of iodine 131 were intentionally released in 1949 resulting in a plume 200 miles long and 40 miles wide over parts of eastern Washington and Oregon; and in 1951, a failure in some filters caused the release of 19,000 curies of radioiodine over several months. The early 1970s brought the most widely known accident at Hanford when it was discovered that some of the single-shell tanks had failed and released approximately a half a million gallons of radioactive waste into the soil. It is against this historical background that the Draft Environmental Impact Statement on defense waste must be analyzed. Consequently, I commend efforts by the United States Department of Energy to clean up the defense waste problem at Hanford. It is clear that some action must be taken. 2.3.2.12 2.2.1

In 1982, Congress enacted the Nuclear Waste Policy Act. The Policy Act establishes a program for the deep geologic disposal of commercial high-level nuclear waste. The Act also allows the President to determine whether high-level defense waste will also be disposed of in the commercial repository. President Reagan, in the spring of 1985, made the decision to permit commingling of defense and commercial high-
2.4.1.4 level waste in one repository. The President's decision to approve commingling forged a link between commercial and defense high-level waste disposal.

The linkage between the commercial and defense waste disposal programs was further strengthened by the May 28 decision of Secretary Herrington to postpone indefinitely the site selection process for a second repository. It appears to me that the commercial repository program
2.1.10 may be driving the disposal option decisions for defense waste. The final environmental assessment (EA) released on May 28th makes assumptions about the amount of defense waste that would be commingled in a commercial repository. The EA assumes that most, if not all, of
3.3.2.1 the waste in the single-shell tanks will be stabilized in place; that is, not disposed of in a repository. The "indefinite postponement" of the selection process for a second repository also appears to rely on this assumption which may result in greater pressure for in-place stabilization of these wastes so as to not affect the capacity of the
3.3.5.7 first repository which is limited to 70,000 metric tons. Both of these factors lend credence to the belief that the Department has in fact

already made its decision about the disposal of the waste in the single-shell tanks.

I do not believe that in-place stabilization of the wastes in the single-shell tanks should be a permanent disposal option. At best, it may be a temporary solution but it should not be the final decision. 3.3.2.1
The single-shell tanks are not safe for the permanent disposal of these wastes. They have leaked in the past; some allege that they continue to leak. These wastes should be disposed of in a repository. The health and safety of future generations should not be sacrificed because the cost of repository disposal may be greater than in-place stabilization. Safety, not economics, must drive the disposal 2.2.3
decision.

The credibility of the U.S. Department of Energy is highly suspect since the May 28 decision to "indefinitely postpone" the site selection process for a second repository. I share the view that the Department's decision violates the spirit and letter of the law as embodied in the Nuclear Waste Policy Act. Consequently, I am somewhat gun-shy about participating in the defense waste disposal process for 2.5.5
fear that the Department may again engage in arbitrary and capricious behavior. The state of Washington participated in good faith in activities undertaken pursuant to the Nuclear Waste Policy Act only to have the rug yanked out from under us on May 28. Why should we expect different treatment by the Department in the defense waste Environmental Impact Statement process? As I have already mentioned,

the appearance that a decision has already been made by the Department in favor of in-place stabilization of the existing defense waste in the single-shell tanks only adds to my uneasiness.

I think that the Draft Environmental Impact Statement process may be premature. The draft document admits that in the case of single-shell tank wastes, "further research and development will be required to verify disposal methods prior to a final decision or implementation." How can an intelligent decision on a disposal method for single-shell tank waste be made when the necessary research and development data upon which to base a decision has not been conducted? If, as the Draft Environmental Impact Statement alleges, further data on retrieval methods will be required before a final decision can be made on the geologic disposal option, then why are we engaged in a process which admittedly lacks the pertinent data upon which to base a rational choice? Let's obtain the relevant research and development data needed to make a decision on disposal options before we make that decision rather than after. This seems like a classic case of putting the cart before the horse.

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3.3.2.4
2.5.9

The need for additional research and development work also supports the argument that the Draft Environmental Impact Statement is too narrow in its scope. That is, it should be more specific as to what information will be needed to resolve certain disposal issues. For example, as mentioned earlier, the disposal of the wastes in the single-shell tanks will require more research and development. However, the Draft

2.5.9

Environmental Impact Statement fails to say what that research and development should be or how long it will take to complete that process.

The Draft Environmental Impact Statement contends that defense waste will continue to be produced for 12 more years at Hanford. The draft should provide contingencies for waste production and examine a range of production scenarios. What if waste production ceases in 6 years? 20 years? 50 years? These possibilities should be addressed by the Draft Environmental Impact Statement. The uncertainty surrounding future defense waste production should be recognized and planned for with realistic options.

2.3.1.6

In conclusion, the most important point that I think must be made is that the Department needs to recognize the linkage between defense and commercial waste disposal decisions. They are part of the same problem. The commingling decision by the President cemented that link. Decisions in the commercial EA process can affect decisions in the defense Draft Environmental Impact Statement process. Until this linkage is recognized, the Department's disposal program for high-level radioactive waste will offer incomplete solutions to a nationwide problem. Partial solutions encourage distrust of the Department's analyses and decisions. The Department's credibility has been seriously undermined by the postponement of the second repository program. The defense waste program may suffer because of this. Consequently, I urge the Department to begin to restore its credibility

2.1.3
2.5.5

by acknowledging the linkage between the commercial and defense waste programs. A commitment to analyze the impacts of the delay in the second repository program upon defense waste disposal would begin to alleviate the Department's credibility problem. Thank you.

2.5.5

AW:d4-6

COMMENTS ON THE DEIS FOR DISPOSAL OF
HANFORD DEFENSE HIGH-LEVEL, TRU AND TANK WASTES
Seattle, Washington, July 15, 1986

Ruth F. Weiner
Western Washington University
Bellingham, WA 98225

PRELIMINARY STATEMENT

These comments refer only to the Draft Environmental Impact Statement (DEIS) in question, and relate only tangentially to any decisions on the commercial high-level radioactive waste (HLW) repository. Moreover, deficiencies and discrepancies in the DEIS beyond the major ones are not identified; I intend to submit more detailed comments on the Appendices before the end of the comment period. Finally, these comments reflect my own views; they are not, to my knowledge, representative of the views of any agency, organization, institution, or public interest group, although I have submitted them to the Northwest Citizens' Forum on Defense Waste, of which I am a member. I have received no financial or logistical assistance in preparing these comments.

INTRODUCTION

When U-238 in a plutonium production reactor is irradiated, both fission products and neutron activation products are present after irradiation. The process of isolating and purifying plutonium and fissile uranium from this irradiated fuel yields a considerable quantity of chemical waste, in solution form, which also contains a variety of radionuclides and which is, in part, highly radioactive. The process of plutonium production and purification was begun more than 40 years ago, when the chemistry of radioactive materials was in its infancy, as was knowledge of groundwater pollution mechanisms and the radiochemistry of soils. In the absence of any appropriate disposal means, very radioactive plutonium production waste was partially dewatered and stored in tanks, radiocesium and radiostrontium were purified and encapsulated, less radioactive liquid was dispersed in the soil from cribs, and low-level transuranic (TRU) waste was stored or buried. Today, high-level waste is still stored in tanks, though these are now double-walled, adequately monitored tanks, and much low-level liquid waste is, unfortunately, still dispersed from cribs into the soil or stored in ponds. None of these disposal methods, with the possible exception of ponds, has ever been considered permanent.

(no comment identified)

SCOPE OF THE DEIS

The DEIS under consideration addresses the permanent disposal of this waste. It is a bit odd that the issuance of the DEIS coincides with the issuance of the final environmental assessments for characterization of the first commercial HLW repository. This schedule brings the DEIS to the
2.3.2.1 public at the height of the controversy over siting the repository and has resulted in understandable public confusion over the two issues. It would be prudent for DOE to address the timing of this document in the Final EIS on Defense Waste. In fact, this DEIS is independent of the repository siting decision (except in one aspect, which will be discussed below); the tank waste, TRU waste and contaminated soil at Hanford must eventually be treated for permanent disposal no matter where the commercial repository is put or when the commercial repository begins to accept waste.

There is also some confusion about the relationship of this DEIS to the recently released General Accounting Office (GAO) report entitled "Nuclear Waste: Department of Energy's Transuranic Waste Disposal Plan
3.1.3.7 Needs Revision" (GAO/RCED-86-90) which states (p. 18) that the DOE has not fully addressed 81% of the defense TRU waste. Since this GAO report was issued at the same time as this DEIS, and this DEIS is not cited in the report, one might assume that the DEIS was not included in the documents reviewed by GAO. The impression remains, however, that the DEIS does not include a substantial fraction of the TRU defense waste at Hanford. Is all defense waste included in the DEIS? If any is not included, it should be incorporated into the final EIS. Since there were no scoping hearings at which this point could be raised, it must be addressed at some point.

The absence of scoping hearings also seems to preclude considering the
2.3.1.1 question of continuing to produce plutonium at Hanford, and thus continuing to produce this waste. It would make no sense to discontinue plutonium production at Hanford permanently while continuing production elsewhere in the United States. Whether or not to continue plutonium warhead production at all is a question that DOE cannot answer unilaterally; this is a decision for Congress.

THE ALTERNATIVES FOR THE HANFORD DEFENSE-RELATED WASTE

The wastes included in the DEIS are: HLW from the PUREX process stored in double-shell and single-shell tanks, current stored TRU waste, pre-1970 TRU waste, Sr and Cs capsules, TRU-contaminated soil, current acid waste, waste from cladding removal, organic wash wastes, finishing plant waste, and miscellaneous customer and N-reactor waste. The options presented, in addition to a "no action" option, are: (1) vitrification and geologic disposal of most of the waste, with in-place stabilization of the remainder; (2) in-place stabilization of all defense waste; (3) a "reference alternative" in which HLW in double-shell tanks is vitrified for geologic disposal and the remainder of the defense waste is stabilized in
2.3.2.2 place. Unfortunately, reduction of the waste stream is only alluded to in the DEIS, and not adequately analyzed. The DEIS does not indicate a preferred disposal alternative, but asks for public comment on preferences, so that appropriate further research directions are indicated.

VITRIFICATION AND GEOLOGIC DISPOSAL

The "geologic disposal" alternative, appropriately, does not concern itself with repository location. There is, however, considerable apprehension that the DOE decision not to proceed with the second HLW repository has pre-empted geologic disposal, because the amount of vitrified defense waste thus generated, when added to the commercial waste, would exceed the repository capacity. The DEIS indicates that geologic disposal of Hanford waste would yield 23,819 canisters of waste, which by DOE calculations converts to 11,910 MTHM (more recent DOE calculations indicate 22,000 canisters, or 11,000 MTHM). An additional 7250 MTHM of defense HLW is an- 3.3.5.7
ticipated from other sources. If commercial spent fuel requires 50,000 MTHM repository capacity, and since the Nuclear Waste Policy Act limits the first repository to 70,000 MTHM, the first repository would be just adequate if DOE's calculations are correct, but allows for only a 10% error (approximately) in those calculations. The final EIS must thus assure that work on the second repository will resume in a timely manner, or an amendment to the Nuclear Waste Policy Act to expand the size of the first repository would be required. Such an amendment would have considerable and complex repercussions.

Vitrification of HLW appears to be an adequately tested technology; there is an operating plant at Marcoule in France. Moreover, the proposed 3.1.8.10
dissolving of waste in glass has considerable advantages over glass production from a calcine (as is done in Idaho). Calcining requires exceedingly 3.3.2.3
high temperatures, and the calcine produced is a difficult substance to handle, isolate, and manipulate (I make these comments from personal experience with making doped glass from calcines). Although the behavior of radioactively-doped glass over periods of thousands of years cannot be predicted with any certainty, it is safe to assume that the glass is more stable than spent fuel itself. Even though there is the probability that glass devitrifies (since radiation damages the glass structure) and can then be leached by water, the rate of leaching of radioactive materials in the glass would be less than the leaching rate from spent fuel, if only because the radioactive material is considerably more dilute in glass than in spent fuel. Synthetic ceramics, like "synroc", might prove preferable to glass, but synroc technology is not as well understood, nor would the difference in suitability be very great. However, vitrification and geologic disposal have been recommended for radioactive waste since 1979, when a study of these processes was published by the U. S. Geologic Survey (Circular #779: "Geologic Disposal of Radioactive Waste"). With all of the uncertainties attendant on very long term predictions, vitrification and geologic disposal appear to provide the most assured isolation of radioactive waste from the accessible environment.

The major drawbacks to vitrification are three: extensive handling of the material is necessary, considerable volumes of process waste are produced, and the costs in both dollars and energy are extremely high. Both the cost and the occupational radiation exposure attendant on the geologic disposal alternative are almost an order of magnitude higher than for the other alternatives. Occupational exposure may be decreased by increasing remote handling, but this markedly increases cost.

3.1.4.5 It is not clear that the method proposed for digging solidified waste out of the single-shell tanks has ever been tested on any scale. A dry method might appear preferable to any sort of hydraulic sluicing of the single-shell tanks, given their aged and partly corroded state, but other methods should be discussed and compared. In particular, any method actually used for such a process must be included in the EIS.

3.1.6.1 The DEIS does not contain a satisfactory discussion of the handling and treatment of current chemical (as distinct from radiological) wastes from the PUREX process, let alone an adequate discussion or analysis of process wastes from vitrification itself. The geologic disposal alternative would include a considerably larger waste stream than the reference alternative; much of the waste contains compounds (sulfates, hydroxides, etc.) which cannot be incorporated into glass. Any final EIS should include a detailed discussion and analysis; a supplemental EIS should be considered.

IN-PLACE STABILIZATION

3.3.2.4 The discussion of in-place stabilization in the DEIS makes it clear that actual experimental work done in support of this alternative is grossly insufficient. It is unclear from the discussions in Appendices A, B, D and M whether descriptions are of conceptualizations or of actual experimental data; most of the methods described appear to be conceptual. Appendices M, O and Q, which deal with hydrologic models, do not indicate clearly how these models have been calibrated and reveal insufficient experimental testing of models.

3.5.1.21 The success of in-place stabilization as an isolation technique depends on the performance of the soil overburden and capillary barrier. At present, there has been no actual testing of adequately loamy or silty soils for this barrier, although such testing will apparently begin during the next fiscal year; soils tested to date are not suitable for the barrier. Thus, no decision at all can be made now on the adequacy of the proposed barrier for isolation from rain and weather.

3.1.4.25 Gravel and rock fill is the only method proposed for stabilizing the single-shell tanks (Appendix B); it is proposed to fill the space in the tank above the dewatered solid waste with gravel or rock, which would stabilize the shape of the tank and contain the waste. This method is conceptual at present, and is certainly not the only method which could be conceptualized by DOE. While pouring grout or cement into the tank poses considerable problems of waste migration, other fill types should be considered which do not depend so heavily on drying the waste. Clay (bentonite or kaolin) or a clay and sand mixture might not only fill the tank but absorb remaining moisture in the waste and adsorb any wet waste. Clay fill might also penetrate the waste layers in the tank and provide a more complete fill. This sort of method needs to be investigated and tested. Complete chemical and radiological characterization of tank contents is also needed.

3.1.8.18 There is an ongoing in situ vitrification project at Hanford, yet this method was not suggested for stabilizing contaminated soil sites. In-place vitrification might be the best method for stabilizing TRU-contaminated soil, and should be included in any EIS. In any case, deliberate contamination of the soil with TRU waste is unnecessarily risky, and the use of cribs and unlined ponds should be discontinued. Methods for reducing water volumes need to be investigated and substituted for simple absorption of contaminated solutions by soil.

3.1.4.14 The proposed grouting process and WRAP facility are also only conceptualized as yet; the WRAP process needs to be tested to some extent. Different grout formulas need testing for consistency, setup time, drying rate, etc., before any decision can be made on grouting. In sum, all aspects of the in-place stabilization proposal need actual experimental testing and a supplemental EIS before any decision on in-place stabilization can be made or recommended.

COMPARISON OF ALTERNATIVES

3.3.5.9 Informed comparisons can be made only on the basis of adequate information on techniques of disposal, costs, and comparative risks. As has been pointed out above, the information given on in-place stabilization techniques is inadequate for informed comparison. Cost analysis in the DEIS is not adequate for anything; Appendices J and K address costs without sufficient detail. The only conclusion which can be drawn is that vitrification seems to be the most expensive waste treatment option. The magnitude of the difference in cost between vitrification and in-place stabilization cannot be estimated until an adequate cost analysis is done, however.

3.2.6.8

3.3.2.4

3.4.1.11 Non-radiologic occupational risks, except for those associated with transportation, are not enumerated or analyzed in sufficient detail. Operation of the vitrification, grouting, and WRAP facilities is hazardous in that large quantities of material, massive machinery, and, in the case of vitrification, very high temperatures, are involved. Removal of material from the tanks involves handling high-pressure water streams. In the absence of adequate information, one may assume that each alternative is very hazardous to workers. Qualitatively, removal of material from tanks and vitrification appear to include greater non-radiological occupational hazard than the various methods given for in-place stabilization.

3.4.1.7
3.5.5.8 Radiological risks among alternatives are amenable to some comparison. The long term risks from geologic disposal (assessable from the EPA risk assessment for 40 CFR 191) can be compared to the results of the two scenarios for failure of the barriers in the in-place stabilization alternative (Appendices R and S). Both the radionuclide release-to-dose conversion and the dose-to-risk conversion used by DOE have been questioned, but comparisons can still be made since the same conversion factors are used for all scenarios. Similarly, non-fatal cancers are excluded from health effects, but they are excluded in every case (an adequate risk analysis would be based on cancer incidence rather than cancer fatalities, and this should be done in the final EIS).

Although the research in the DEIS is inadequate for any conclusion, the impression given by the DEIS is that vitrification and geologic disposal provide more secure isolation of the waste for the future, especially the distant future, than in-place stabilization, at the expense of considerably greater present radiologic hazard both to workers and to the general public. This suggests that much more research is needed into the in-place stabilization options and the barrier before a real decision can be made. It is also true, however, that a decision should be made in the foreseeable future - in a few years - and even then there will be objections on the grounds of insufficient information. 2.3.2.2

RECOMMENDATIONS

The following recommendations are for priorities for further research. At this time there is not sufficient knowledge about in-place stabilization to either include it in some combination with vitrification, like the reference alternative, or rule it out. Vitrification and geologic disposal, on the other hand, appear to provide sufficiently superior isolation that they should not be ruled out for the high-level tank waste and the encapsulated Sr and Cs. Further research will materially assist in a decision on the single-shell tank wastes, which simply cannot be made at present, and indicate the need for a supplemental EIS. 2.3.2.3

1. The highest research priority should be into actual barrier performance under extreme climate conditions. If the barriers don't behave as anticipated, the geologic disposal alternative would be superior. 3.5.1.56

2. The second research priority is actual testing, on some scale, of the transportable grout facility and the WRAP facility, as well as testing of in situ vitrification for TRU-contaminated soil. Even with the geologic disposal alternative, some material will have to be stabilized in place. 3.1.8.21

3. If the barrier performance is not as predicted, safe removal of material from the single-shell tanks assumes a high priority. Other methods than that given in the DEIS must be investigated, and any suggested method must be tested. Perhaps limited testing could be done one one or two tanks, in any case, for both this priority and the following one. 3.1.4.5

4. If the barriers appear to perform as predicted, methods for stabilizing the single-shell tanks and their contents would assume a higher priority than methods of removing material from these tanks. Other materials should be tested in addition to rock fill. 3.1.4.35

The following recommendations are directed toward the final EIS, and relate to other aspects of the DEIS than further research.

1. The vitrification facility should be fully tested with hot feed; vitrification appears to be the best option for at least some double-shell high-level tank waste and newly generated HLW from the PUREX process. 3.1.8.9

2. A thorough and detailed cost analysis of all options is needed. 3.2.6.8

071

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0071

3. A thorough analysis of non-radiological occupational hazards is needed. 3.4.1.7

4. A thorough analysis of the relationship between each alternative, the decision to delay the second repository, and the rate of generation of commercial spent fuel is needed. 2.1.8

5. Options for reducing the defense waste stream, such as the process modification facility, should be included. 2.3.1.14

6. A thorough analysis of the process waste streams and management of hazardous chemical waste, including regulatory overlap and uncertainties following on the Resource Conservation and Recovery Act and the mixed waste issue, is needed. 3.1.6.1

7. Since the Sr and Cs capsules require minimal, if any, treatment before storage in a geologic repository, the geologic repository appears to be the best alternative for these, at least. Costs and advantages and disadvantages of this option should be explicit. 3.1.2.5

8. Adequate funding for the management of wastes from defense activities should be assured. 2.2.9

9. Waste-producing defense activities should either be regulated directly by the Nuclear Regulatory Commission and the Environmental Protection Agency, or DOE should abide by the regulations promulgated by these agencies by explicit written agreement. 2.4.1.1

10. Differences between the DEIS and the GAO report on TRU waste should be reconciled. 3.1.3.7

11. Use of cribs for radioactive liquid disposal should be discontinued. 2.2.10

13. Cancer incidence rather than cancer fatalities should be the measure of radiologic risk. 3.5.5.8

A FINAL STATEMENT

The ultimate choice of which wastes to vitrify and which to stabilize in place will involve a balance between current public and occupational radiologic risks and potential future radiologic risks; e. g., vitrification entails the greatest occupational and public health risks but appears to provide the best long-term isolation. The choice must be made carefully and knowledgeably and, if possible, such that all risks are minimized.

072

BROCK ADAMS
U.S. SENATE

BROCK ADAMS' TESTIMONY
DEPARTMENT OF ENERGY
JULY 15, 1986

MR. WHITE, REPRESENTATIVES OF THE U.S. DEPARTMENT OF ENERGY, MY NAME IS BROCK ADAMS AND I AM PLEASED TO HAVE THE OPPORTUNITY TO TESTIFY TODAY.

THE DISPOSAL OF HANFORD'S 43-YEAR ACCUMULATION OF DEFENSE WASTE IS ONE OF THE MOST IMPORTANT ISSUES FOR THE FUTURE OF OUR REGION. FOR OUR GENERATION. AND FOR MANY GENERATIONS TO COME.

YOU'VE ALREADY HEARD A GREAT DEAL OF TECHNICAL TESTIMONY AND I KNOW OTHERS WILL HAVE MORE TO ADD BEFORE THE PUBLIC COMMENT PERIOD ENDS.
WHAT I'D LIKE TO CONCENTRATE ON TODAY IS THE QUESTION OF PUBLIC PROCESS: HOW TO WE DEAL WITH THIS COMPLEX ISSUE? HOW DO WE ACHIEVE REGIONAL CONSENSUS? HOW CAN WE ENSURE TRANSPORTATION SAFETY?
AND FINALLY, HOW DO WE MAKE SURE THE MONEY IS THERE TO PAY FOR THE CLEANUP OF HANFORD'S NUCLEAR WASTE?

I'VE WATCHED CLOSELY AS YOU'VE GONE THROUGH YOUR DEFENSE WASTE E.I.S. PUBLIC PROCESS, AND I'D LIKE TO COMPLIMENT YOU FOR A GOOD FAITH EFFORT TO TAKE THE ISSUES TO OUR CITIZENS AND KEEP YOUR MINDS OPEN.

YOU'VE MADE VAST IMPROVEMENTS OVER THE TRADITIONAL DEPARTMENT OF ENERGY WAY OF DOING THINGS.

2.3.2.12 I'VE BEEN PARTICULARLY IMPRESSED WITH THE NORTHWEST CITIZEN'S FORUM APPOINTED BY MIKE LAWRENCE. IT WAS A GOOD IDEA TO FORM A TRULY INDEPENDENT BODY OF CITIZENS TO REVIEW THE E.I.S., AND FRANKLY, IT TOOK GUTS TO INCLUDE SEVERAL HANFORD CRITICS ON THE FORUM. FROM MY VANTAGE POINT, IT LOOKS LIKE THE EFFORT WILL PAY OFF. I'VE HAD AN OPPORTUNITY TO TALK WITH SEVERAL MEMBERS OF THE FORUM, AND THEY REPORT TO ME THAT IT APPEARS LIKELY THAT 26 CITIZENS, REPRESENTING DIFFERENT INTERESTS AND PERSPECTIVES, ARE GOING TO REACH A CONSENSUS.

IT ALSO APPEARS THAT THEIR RECOMMENDATIONS WILL CLOSELY PARALLEL THOSE ARRIVED AT INDEPENDENTLY BY THE STATES OF OREGON AND WASHINGTON. IF DOE IS WILLING TO LIVE WITH THESE COMPROMISES - AND I STRONGLY URGE YOU TO - I THINK WE'RE VERY CLOSE TO ACHIEVING A REGIONAL CONSENSUS.

BELIEVE ME, WE'RE GOING TO NEED TO BE TOGETHER AS A REGION IF WE'RE EVER GOING TO GET CONGRESS TO APPROPRIATE THE 2 OR 3 OR 11 BILLION DOLLARS IT WILL TAKE TO CLEAN UP HANFORD.

THAT LAST POINT RAISES A VERY IMPORTANT QUESTION: IN AN ERA OF GRAMM-RUDMAN, HOW CAN WE GET THE MONEY?

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109

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FIRST, WE HAVE TO ACHIEVE THAT REGIONAL CONSENSUS. SECOND, AND THIS WILL BE ONE OF MY VERY FIRST ACTS WHEN I GO BACK TO WASHINGTON DC AS A U.S. SENATOR NEXT JANUARY, WE MUST SECURE THE FUNDS NOW TO PROCEED WITH THE CLEANUP. AND FOR FUTURE YEARS, WE MUST CREATE A TRUST FUND OR OTHER UNTOUCHABLE SOURCE OF MONEY TO PROVIDE FOR THE ONGOING WASTE MANAGEMENT AND DISPOSAL ACTIVITIES.

FOR TOO LONG, WE HAVE HIDDEN THE TRUE COST OF WEAPONS PRODUCTION BY NOT ACCOUNTING FOR THE BILLIONS IT'S GOING TO TAKE TO SAFELY DISPOSE OF THE WASTE. 2.2.9

IF OUR NATION'S POLICY IS TO CONTINUE TO BUILD MORE OF THESE WEAPONS -- AND I THINK WE SERIOUSLY NEED TO QUESTION THE NEED FOR MORE -- THEN THE LEAST WE CAN DO IS PROVIDE THE MONEY ON A CURRENT BASIS TO PAY THE TRUE COST, INCLUDING DISPOSAL. 2.5.6

NOW, SO MUCH FOR DEFENSE WASTE. ITS SHEER VOLUME AND THE PROBLEMS WE ARE HAVING WITH ITS SAFE DISPOSAL TIE DIRECTLY TO ANOTHER DOE DECISION INVOLVING HANFORD.

AS WE ALL KNOW, THE DEPARTMENT OF ENERGY IS ALSO INVOLVED IN ANOTHER EXTREMELY IMPORTANT DECISION -- THE SITING OF THE NATION'S FIRST -- AND POSSIBLY ONLY -- DEEP REPOSITORY FOR COMMERCIAL AND MILITARY NUCLEAR WASTE.

NOW I REALIZE THAT NONE OF YOU HERE REPRESENTING THE DEPARTMENT HAVE ANYTHING TO DO WITH THE REPOSITORY DECISION. BUT I WANT YOU TO DO ME A FAVOR.

I'D LIKE YOU TO TAKE A MESSAGE TO WASHINGTON D.C. FOR ME. THE MESSAGE IS THIS: WE HAVE TRIED PLAYING BY THE RULES. MANY OF US BELIEVE A REGIONAL SYSTEM OF SAFE MONITORED RETRIEVABLE STORAGE (MRS) SITES IS THE RIGHT ANSWER FOR THE INTERIM OF 40 OR 50 YEARS. 3.3.4.2

THE CITIZENS SPOKE UP ABOUT THIS ISSUE A FEW YEARS AGO AND WERE IGNORED. WE MUST START OVER AND TRY AGAIN. CAN YOU IMAGINE ANYPLACE IN THE CONTINENTAL U.S. THAT IS WORSE FROM A TRANSPORTATION PERSPECTIVE THAN HANFORD? 3.4.2.2

THE TRANSPORTATION OF 70,000 TONS OF INTENSELY RADIOACTIVE COMMERCIAL WASTE MAY BE THE WEAKEST LINK IN THIS POLITICAL CHAIN REACTION.

IF YOU LIVE IN SPOKANE, OR BOISE OR MISSOULA OR EASTERN OREGON, AND HANFORD IS SELECTED AS THE NATION'S ATOMIC LANDFILL, PREPARE YOURSELF FOR ONE HECK OF A NUCLEAR PARADE. 175,000 TRACTOR-TRAILER TRUCKLOADS, OR MORE THAN 22,000 TRAIN LOADS OF SPENT FUEL RODS WILL PASS THROUGH THESE NORTHWEST COMMUNITIES OVER A 28 YEAR PERIOD.

OUR FRIENDS IN OREGON, IDAHO, MONTANA AND ON EVERY NATIONAL TRANSPORTATION CORRIDOR OUGHT TO BE JUST AS CONCERNED AS WE ARE. WE MUST UNITE WITH OTHER STATES AFFECTED BY THE TRANSPORTATION ISSUE TO GIVE US THE POLITICAL MUSCLE WE OBVIOUSLY DON'T HAVE TODAY IN THE U.S. SENATE.

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072

Page three

3.4.2.2 AS A FORMER SECRETARY OF TRANSPORTATION, I KNOW FIRST-HAND THE DANGERS OF TRANSPORTING HAZARDOUS CARGO OVER THE NATION'S RAIL AND HIGHWAY SYSTEMS. I'VE SEEN TOO MANY EXAMPLES OF ACCIDENTS THAT RESULTED IN LEAKS OR EXPLOSIONS OF HAZARDOUS MATERIALS. I SHUDDER TO THINK OF THE EFFECTS OF A NUCLEAR TRANSPORTATION ACCIDENT.

3.4.2.2 DEADLY NUCLEAR GARBAGE WILL RUMBLE ALONG OUR HIGHWAYS IN ONE OF THE LONGEST AND MOST DANGEROUS CONVOYS IN HISTORY. THE DEPARTMENT OF ENERGY MUST ENTER INTO A TRANSPORTATION WORKING AGREEMENT WITH REGIONAL STATES TO ADDRESS SUCH ISSUES AS: LIABILITY FOR ACCIDENTS, INFORMATION ABOUT THE TIMING, ROUTES AND CONTENTS OF SHIPMENTS, AND CONTACT PROTOCOL BETWEEN THE STATES AND WASTE CARRIERS.

A SIMILAR AGREEMENT WAS ENTERED INTO BETWEEN DOE AND THE STATE OF SOUTH CAROLINA IN 1980. THE CITIZENS OF WASHINGTON DEMAND THE SAME.

2.1.1 WE IN WASHINGTON ARE WILLING TO DO OUR FAIR SHARE. WE HAVE SAID THAT IF THE PROCESS IS FAIR AND THE SCIENCE INDISPUTABLE WE WON'T PLAY THE "NOT IN MY BACKYARD" GAME. WELL, THE ADMINISTRATION AND DOE MUST HAVE THOUGHT THEY COULD PULL ONE OVER ON US.

THEY CREATED AN ELABORATE SYSTEM TO EVALUATE THE FIVE SEMI-FINAL SITES, SPENT HUNDREDS OF MILLIONS IN THIS ELABORATE RANKING PROCESS, AND THEN, WHEN IT CAME RIGHT DOWN TO IT, DID THEY PICK THE TOP THREE SITES?

NO. THEY PICKED NUMBERS ONE, THREE AND FIVE. HANFORD WAS NUMBER FIVE. BUT SOMEHOW MADE THE TOP-THREE LIST. THAT ISN'T SCIENCE, THAT ISN'T FAIRNESS, THAT'S THE DOE NUCLEAR LOTTO GAME. THE EXPLANATION WAS THAT DOE WANTED SO-CALLED GEOLOGIC DIVERSITY AND THAT HANFORD'S BASALT FILLED THE BILL. BUT AT THE SAME TIME, THE DEPARTMENT CANCELLED ALL THE EAST COAST GRANITE SITES WHEN IT CALLED OFF THE SEARCH FOR THE SECOND REPOSITORY.

THE FACT IS, THESE EXPLANATIONS ARE PURE BUNK AND WE AREN'T BUYING IT.
THE FACT IS, THE ADMINISTRATION IS PLAYING POLITICS.
THE EAST GETS THE POWER, AND WE GET THE GARBAGE.
THE FACT IS, WE HERE IN THE NORTHWEST HAVE LEARNED JUST HOW FAIR AND REASONABLE THE PROCESS IS. AND IN NOVEMBER, AFTER THE LEGISLATURE HAS MET TO PUT A REFERENDUM ON THE BALLOT, THE PEOPLE OF WASHINGTON STATE ARE GOING TO HAVE A CHANCE TO TELL WASHINGTON DC JUST WHAT THEY THINK OF THE ADMINISTRATION PLAYING POLITICS WITH OUR LAND AND OUR LIVES.

WE ARE GOING TO ORGANIZE. WE ARE GOING TO FIGHT. WE ARE GOING TO SPEAK WITH ONE VOICE. THEY MAY BE THREE THOUSAND MILES AWAY, BUT I GUARANTEE THEY'RE GOING TO HEAR US LOUD AND CLEAR.

2.1.1 IN THE MEANTIME, SINCE WORDS HAVEN'T HAD MUCH IMPACT, SINCE THE RECOMMENDATIONS OF THE NATIONAL ACADEMY OF SCIENCES HAVEN'T MADE A DENT, MAYBE YOU COULD DELIVER A MESSAGE --- A VERY SIMPLE MESSAGE -- TO THE FOLKS IN WASHINGTON DC FROM THE FOLKS IN WASHINGTON STATE.. (THUMBS DOWN GESTURE)

THANK YOU.

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110

073

SEATTLE WOMEN ACT FOR PEACE WOMEN STRIKE FOR PEACE

EL CENTRO DE LA RAZA 2524 16th South, Seattle, Wa. 98144
Seattle Women Act for Peace/WSP
(206)329-3666

July 15, 1986

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Department of Energy

There is more to the federally directed decision for Hanford to become the nation's nuclear dumpsite than meets the eye.

What we hear from our administration and politicians is emphasis on science and technology. Today, and even yesterday, we have been and are faced with a series of problems of cataclismic consequences that have not yet been solved. As an example: the 149 single walled tanks, containing most deadly nuclear waste from defense production (an offensive production) of these tanks almost 20% are leaking (27) and no real solution in sight. The tanks and many other hazards are deadly hazards to all living things, humans included. 3.4.3.1

While the point in question today is nuclear waste disposal, high and low level, The Chernobil accident sets an awsome example of the inherent dangers of a competitive runaway science and technology program or as I like to view it, the indiscriminate persuit of science and technology spurred by interest groups- mainly the military and those who profit financially; the executive and legislative branches of our government cheering./ 2.5.5

We have not even learned to cope with present nuclear waste, at least not safely, and now we want to accumulate more and more at a dizzying rate-in Hanford. Not only the tanks are leaking as mentioned previously, but there are leaks underground and declassified reports will not reach us until 30 to 20 years later. The recently declassified reports referring to melt downs or near melt downs in the 1950s and 1960s justify myremarks. It also fills the people of our country with a deep sense of apprehension and mistrust. The transportation of spent hot rods, uranium, to the subsequent conversion to plutonium poses several grave hazards. 3.4.3.1

Much has been written by research scientists, unencumbered by the Pentagon and/or weapons manufacturers interests. They imply that if the Nuclear Waste Board and the DOE will not heed their advice, our state will be facing a precarious future- if a future at all-.

For my part, the solution to nuclear waste disposal is not to pass it on to another state; we need not one or two sites, we need ten, twenty or thirty, preferably close to where nuclear waste is being produced; the same applies to Taiwan spent uranium rods--we do not need more plutonium to make more bombs, we do not need more nuclear weapons testing, creating more waste. All of these only exacerbate an intolerable and unsurmountable problem, we face today. 3.3.5.2 2.5.6

clean up cost $ 3 billion
[illegible] 10% of our defence budget
[illegible]

Sincerely yours,
Seattle Women Act for Peace
branch of Women Strike for Peace
Anci Koppel
Anci Koppel, co-chair

End The Arms Race—Not The Human Race

074

Statement of Estella B. Leopold
Department of Botany
University of Washington

CLIMATE CHANGE

3.5.6.1 The EIS makes superficial mention of possible impacts from climate change but the treatment is inadequate in terms of human safety. Considering the importance of long term conditions, and the wealth of modern data on climate systems (unexplored by DOE) this topic is given short shrift, is undocumented and is woefully inadequate. Just mentioning a problem is no substitute for an analysis.

3.5.6.1 The safety of the buried defense wastes as well as the repository must be considered on a geologic timescale. The federal guidelines indicate that radioactive wastes must not leak into the accessible environment for 10,000 years. That figure should better be 100,000 years, considering the length of time before the high level wastes would decay to a "safe " level". 10,000 years is 2x the age of our civilization. 100,000 years is the age of later stone age cultures.

An analysis of past timing of climate and glaciation on such a timescale can be a basis for projecting the future climate for eastern Washington.
The reason this is relevant is that any change in climate means a change in hydrology.

Long range climate can now be predicted because it is established that our climate is forced by orbital characteristics on earth, not mentioned by the EIS.

The present interglacial, 10,000 yrs long so far, has been cooling over the last 4000 years. The last interglacial complex, recorded by detailed fossil pollen data in France, showed 3 warm periods, each as warm as today, each lasting ca 10,000 years and each ending rather suddenly with major ice advances in the Vosges Mts. It took only ca. 170 years for temperate vegetation to be replaced by a boreal or canadian type near Paris. In the third cooling, Scandanavian ice reached Amsterdam only 4000 years after the warmest part of the interglacial.

This means that the earth probably will experience the begining of a major glaciation within the next 4-5000 years. A delay estimated at ca 2000 yrs could be caused by CO2 increases of the atmosphere (however, the so called greenhouse effect does not seem to be happening). Conservatively projecting from the past 100,000 years, a shift to a glacial climate should occur in 5-7000 yrs.

3.5.6.1 DOE assumes that precipitation might double in eastern Washington , and projects only a small increase in water entering the surface aquifer. The EIS does not explain how they arrived at this figure. This projection is undocumented, so it appears to be a guess, not based on a serious approach.

3.5.6.8 Under a full glacial climate, catastrophic floods like the Missoula floods of the late-glacial accross eastern Washington, could wipe out the alluvium of the Hanford Reservation, change the position of the Columbia River, removing part or all of the buried waste tanks, the reactors, amd the Purex Plant (not mentioned).

3.5.6.5 Recent floods in relation to Hanford are dealt with superficially. Floods of historical magnitude (1948 and 1894) with about 21,000 cubic meters/sec "would inundate the 100-F area but would be of little consequence to the rest of the Site" (p. 4.10 no documentation). However such floods would impact ground water levels away from the river and flush out existing wastes in the alluvium into the river.

3.5.6.6 The EIS considers failure of the Grand Coulee Dam. But it only considers scenarios for 25% and 50% failure. It says the 100 areas and 300 area along the river would be flooded, but fails to point out the relation to the N-Reactor which would indeed be flooded. DOE's capacity to shut down or operate the plant would be insignificant. Such a condition would spell severe disaster with grave environmental consequences for the region of the Columbia Basin and the river. The WPPS Nuclear Plants would also be flooded. DOE fails to deal with these obvious hazards.

The EIS does not take into account that if the Grand Coulee Dam failed, the Priest Rapids Dam just above the Hanford Reservation would probably go too, and this event might increase public hazards by another order of magnitude.

In summary, the EIS does not adequately address the topic of environmental and climate change. With all the geological expertise DOE has brought to bear on the EIS, it has avoided the most serious problem of all-- time and long term hydrology. This is a fatal flaw of the EIS and the project.

Department of Energy Public Hearing
Federal Building Auditorium
Seattle, Washington
July 15, 1986

I AM MARY MATTSON 7273 SOUTH 128th STREET, SEATTLE, WA 98178.

IT SEEMS TO ME THAT THE STATE OF WASHINGTON AND ITS RESIDENTS HAVE ALREADY ACCEPTED MORE

2.1.1 THAN THEIR SHARE OF THE NATION'S NUCLEAR WASTE.

WE ALL CARE ABOUT THE GENERATIONS OF PEOPLE THAT WILL HAVE TO LIVE IN THIS REGION AFTER WE ARE NO LONGER HERE. WE HAVE A RESPONSIBILITY NOT TO POLLUTE THEIR WATER SUPPLIES, THE AIR THEY WILL HAVE TO BREATHE AND THE FOOD CHAIN THEY WILL NEED TO EXIST ....AND FOR THAT MATTER, NOT TO PASS ON THE HORRENDOUS TAX BURDEN THAT WILL BE NECESSARY TO STORE, MONITOR AND PROTECT THEMSELVES FROM NUCLEAR WASTE CONTAMINATION.

SINCE NEARLY 90% OF COMMERCIAL NUCLEAR WASTE IS GENERATED IN THE EASTERN PART OF THE UNITED STATES ISN'T IT INCOMPREHENSIBLE THAT THE FEDERAL GOVERNMENT IS NOW TELLING US THAT HANFORD IS THE ONLY PERMANENT REPOSITORY NEEDED?

112 3.4.2.2 IT WILL BE INCREDIBLY EXPENSIVE TO MOVE SPENT FUEL TO HANFORD. WHILE IN TRANSIT IT WILL BE SUBJECT TO ACCIDENTS, THEFT AND TERRORIST ATTACK.

THE UNITED STATES DEPARTMENT OF ENERGY HAS IDENTIFIED NEARLY 600 NUCLEAR FACILITIES CURRENTLY OBSOLETE OR EXPECTED TO BECOME OBSOLETE IN THE NEXT FEW YEARS. AS AN EXAMPLE, THE SHIPPINGPORT ATOMIC POWER STATION, JUST WEST OF PITTSBURGH, PENNSYLVANIA, BY TODAY'S STANDARDS A VERY SMALL REACTOR, WAS DECOMMISSIONED AND PART OF IT SHIPPED TO HANFORD LAST YEAR. IT JOURNEYED 7,800 MILES VIA RIVER, OCEAN, PANAMA CANAL, THROUGH PORTLAND AND UP THE COLUMBIA RIVER TO HANFORD. ABOUT 2 MILLION PEOPLE, 1.2 MILLION OF THEM IN THE PARTLAND-VANCOUVER AREA, LIVE ALONG THE COLUMBIA RIVER. THE PORTLAND CUSTOMS DISTRICT HANDLED $4.1 BILLION IN EXPORTS AND $3.6 BILLION IN IMPORTS DURING 1984. THE ASSESSED VALUE OF THE PORT DISTRICTS ALONG THE RIVER IS $62

3.2.6.1 BILLION. TOURISM, SPORTS AND COMMERCIAL FISHING BRING MUCH WEALTH TO THE REGION. BARGING RADIOACTIVE WASTE IS A THREAT TO ALL OF THESE.

ACCORDING TO CLARENCE E. MILLER, A USDOE OFFICIAL IN DECOMMISSIONING, HANFORD WILL ALSO RECEIVE SOME 250 TRUCKLOADS OF SHIPPINGPORT RADIOACTIVE DEBRIS - A 2,000 MILE OVERLAND HAUL.

075

I THINK THE THING THAT DISTURBS ME THE MOST IS THAT, UP UNTIL NOW, THE FEDERAL GOVERNMENT AND THE MULTI-BILLION DOLLAR NUCLEAR INDUSTRY HAVE BEEN MOST RELUCTANT TO INFORM CITIZENS ABOUT THIS ISSUE. MUCH OF WHAT THEY HAVE SAID HAVE BEEN HALF-TRUTHS AND EVASIVE, SUCH AS RECENTLY MAINTAINING THAT THE SIX-MEMBER PANEL APPOINTED BY THE DOE TO INVESTIGATE THE N REACTOR SAFETY. 2.5.5
WAS REALLY NOT A GROUP OR COMMITTEE THAT FEDERAL LAW DECREES SHOULD OPEN THEIR MEETINGS TO THE PUBLIC, BUT, RATHER, SIX INDIVIDUALS WHO HAVE, AND WILL IN THE FUTURE, BE ATTENDING BRIEFINGS NOT MEETINGS AND MAY, THEREFORE, MEET BEHIND CLOSED DOORS. ANOTHER EXAMPLE IS TELLING US NOT TO WORRY....OUR NUCLEAR WASTE WILL BE VITRIFIED AND SAFELY STORED WHEN THEY KNOW THAT FRANCE IS HAVING TROUBLES WITH ITS VITRIFICATION PLANT. WHY NOT TRUTHFULLY TELL US THAT THE TECHNOL- 3.1.8.10
OGY FOR SAFELY MANAGING NUCLEAR WASTE IS, AS YET, UNKNOWN.

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DEMOCRATIC GOVERNMENT DEPENDS UPON THE INFORMED AND ACTIVE PARTICIPATION OF ITS CITIZENS AND REQUIRES THAT GOVERNMENTAL BODIES PROTECT THE CITIZENS RIGHT TO KNOW.

MOST OF US HAVE ONLY A VAGUE IDEA OF WHAT GOES ON AT THE HANFORD RESERVATION. THIS MAY IN PART BE DUE TO THE FACT THAT FROM ITS INCEPTION IN 1943 AS PART OF THE GOVERNMENT'S MANHATTAN PROJECT TO MANUFACTURE ATOM BOMBS, THE REASON FOR ITS EXISTENCE WAS SO SECRET THAT EVEN THOSE WHO WORKED THERE WERE UNAWARE OF WHAT THEY WERE PRODUCING. MUCH OF ITS ACTIVITIES SINCE HAVE BEEN CARRIED OUT IN AN AIR OF GREAT SECRECY.

LOOKING BACK ON THOSE YEARS P. PETER LINBASSI, GENERAL COUNSEL FOT THE DEPARTMENT OF HEALTH, EDUCATION AND WELFARE TOLD A JOINT CONGRESSIONAL SUBCOMMITTEE IN APRIL OF 1979:

> "THE AMERICAN PEOPLE WERE NOT INFORMED OF THE EVIDENCE THAT WAS GATHERING DURING THE 1950s AND 1960s OF THE UNCERTAINTY AS TO THE HEALTH EFFECTS FROM RADIATION...I WOULD SAY THERE WAS A GENERAL ATMOSPHERE AND ATTITUDE THAT THE AMERICAN PEOPLE, GIVEN THE FACTS, WOULD NOT MAKE THE RIGHT RISK-BENEFIT JUDGMENT."

WHAT I KNOW ABOUT NUCLEAR WASTE MANAGEMENT COMES FROM MANY HOURS OF INTENSE RESEARCH ON THIS SUBJECT. I'M GRATEFUL TO THE INVESTIGATIVE REPORTERS OF THE SEATTLE TIMES, SEATTLE POST INTELLINGENCER, THE OREGONIAN AND THE PHILADELPHIA INQUIRER FOR PROVIDING SO MUCH BACKGROUND INFORMATION. PUBLICATIONS BY THE WASHINGTON PHYSICIANS FOR SOCIAL RESPONSIBILITY, THE LEAGUE OF WOMEN VOTERS OF SPOKANE, THE LEAGUE OF WOMEN VOTERS EDUCATION FUND, THE NEWS LETTER FROM

THE WASHINGTON NUCLEAR WASTE BOARD, DR. ALLEN S. OLSON AND LARRY SHOOK'S "BLOWING IN THE WIND" AND NUMEROUS OTHER BOOKS AND PUBLICATIONS HAVE BEEN MOST HELPFUL.

IT ALSO MAKES ME SCARY WHEN I READ IN ELOUISE SCHUMACKER'S ARTICLE THAT THE DEPARTMENT OF ENERGY AND ITS CONTRACTORS...ROCKWELL HANFORD OPERATIONS, BATTELLE, WESTINGHOUSE HANFORD, 2.5.5 AND UNC NUCLEAR INDUSTRIES...WILL SPEND MORE THAN $5 MILLION THIS YEAR AND EMPLOY 70 WORKERS, INCLUDING AN OUTSIDE PUBLIC-RELATIONS FIRM, TO HELP ON THE DEFENSE-WASTE ISSUE.

ALL I ASK IS THAT THE DEPARTMENT OF ENERGY, DEFENSE DEPARTMENT AND THE NUCLEAR INDUSTRY LEVEL WITH US AND TELL IT "LIKE IT IS." WE CAN THEN PROBABLY AGREE ON SOME FORM OF 3.3.4.2 MONITORED RETRIEVABLE STORAGE THAT IS WELL MAINTAINED AND PROTECTED...EVEN THOUGH THAT, TOO, IS RISKY.

2.5.6 IT SEEMS ONLY LOGICAL TO STOP FURTHER PRODUCTION OF COMMERCIAL AND DEFENSE NUCLEAR WASTE UNTIL WE CAN SAFELY DISPOSE OF IT.

113

HOW DOES DOE SHRINK HI LEVEL WASTES?

The US Department of Energy has earlier indicated it must bury 500,000 cubic yards of transuranic wastes. The EIS cites 32,000 cubic meters of contaminated soil. Now we hear recently that the volume is 52 million gallons of waste.

One way we fear DOE is shrinking the volume of defense waste it must take care of is to redefine what high-level and low-level waste is. Under their new standards the Hanford plant has been able to reclassify 9 of the 12 million cubic meters of soil contaminated or disposed liquid plutonium waste as "low-level", and to reduce the remaining 3 million cubic meters uwithout explanation to 32,000 cubic meters. 2.4.1.8

The new standards may also allow Hanford to leave high-level wastes in storage tanks- contrary to public law- in cases where the tanks have failed and cannot be removed. 3.1.1.9

The loophole in this procedure is highly danderous for the people of Washington and the region. If one takes high level waste, mixes it with enough soil, it can be termed as "low level" and thrown in a trench , open to the environment. This is no way to run a business, particularly one as seriously devastating as nuclear waste! 2.5.5

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077

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JULY 15,1986

ON SATURDAY JUNE 7, I STARTED MY 60TH YEAR ON EARTH BY READING AN ARTICLE IN THE SEATTLE P-I WHICH STATED THAT THE LEVELS OF RADIATION AT KIEV, A CITY OF 2.5 MILLION PEOPLE, WERE APPROXIMATELY 15 TO 30 TIMES NORMAL, THAT ABORTIONS HAD BEEN RECOMMENDED FOR SOME WOMEN CAUGHT IN THE RADIOACTIVE FALLOUT FROM THE CHERNOBYL ACCIDENT. THE ARTICLE WENT ON TO SAY THAT 100,000 PEOPLE EVACUATED FROM THE 19 MILE DANGER ZONE RUN A HIGH RISK OF DEVELOPING LEUKEMIA AND THYROID CANCER; THAT REGIONS OF ITALY HAD ISSUED WARNINGS ABOUT CHERRIES AND PRODUCTS MADE FROM THE MILK OF SHEEP AND GOATS; AND SWEDEN HAD CANCELLED THE ANNUAL SUMMER REINDEER HUNT.

LET US NOW SUBSTITUTE SPOKANE, SEATTLE, AND PORTLAND AND OTHER SMALLER CITIES FOR THE KIEV AREA, THE COLUMBIA FOR THE PRIPYAT, AND TWO WEEKS IN 1986 FOR 1942 TO THE PRESENT, THE LANGUAGE FROM RUSSIAN TO U. S. BUREAUGARBLE.

WHAT THE RUSSIANS UNFORTUNATELY ACCOMPLISHED IN A SHORT TIME, WE ALREADY HAVE ACCOMPLISHED. THE HANFORD OPEN AIR TRANCHES HAVE LEAKED SINCE THEY WERE INSTALLED. THE N REACTOR HAS SPEWED RADIOACTIVE GARBAGE SINCE IT WAS FIRST ACTIVATED. PUREX IS VOMITING RADIOACTIVITY INTO THE AIR RIGHT NOW. RADIOACTIVITY IS SEEPING INTO THE COLUMBIA RIVER AT THIS INSTANT.

LET US EXAMINE HOW WE HAVE COME TO INHERIT THIS LIVING HELL. WE ALL KNOW ABOUT THE HIGHLY SUCCESSFUL EFFORT TO PRODUCE AN ATOMIC BOMB DURING WORLD WAR II. WITH THE ADVENT OF PEACE WE HAD THIS STABLE OF BOY WONDERS WHO WOULD BE UNEMPLOYED SO THE DEFENSE DAPARTMENT DECIDED TO PROMOTE NUCLEAR BOMBS, MISSILES AND POWER PLANTS. OF COURSE, TO PRODUCE THE NECESSARY BOMB MATERIAL, FUEL, AND MATERIALS FOR TESTING IN NEVADA, ENIWETOK, BIKINI, AND JUST OFFSHORE OF SAN DIEGO AN ENORMOUS CADRE OF BUREAUCRATS AND CONTRACTORS WAS DEVELOPED. THEY ARE STILL WITH US BUT THEIR COUNT HAS MULTIPLIED TEN TIMES OVER.

AS THE YEARS HAVE PASSED, BOMBS WERE SET OFF ABOVE AND BELOW THE GROUND AND OCEAN, OVER 250,000 CIVILIANS AND SERVICEMEN ARE KNOW TO HAVE BEEN EXPOSED TO TO VAST

QUANTITIES OF RADIOACTIVITY. POWER PLANTS HAVE BEEN BUILT AND HAVE MELTED DOWN AND VENTED [THREE MILE ISLAND], AND THE ATOMIC ENERGY COMMISSION, NOW THE DEPT. OF ENERGY STILL MAINTAINS THAT A LITTLE RADIOACTIVITY WILL NOT HURT ANYONE. THAT IS ANALOGOUS TO SAYING THAT A TIGER IS ONLY SLIGHTLY FEROCIOUS OR THAT IT IS EASY TO KEEP AN ELEPHANT AS A PET IN A SMALL HUT. IN THE FIRST INSTANCE I WOULD ASK WHY DO TIGER KEEPERS HAVE SUCH NUBBY FINGERS AND IN THE SECOND I WOULD ASK WHY THE ELEPHANT'S MASTER SLEPT OUTSIDE.

WASTE WAS DUMPED OUTSIDE AT HANFORD BECAUSE THEY WERE JUST TOO LAZY TO FIGURE OUT WHAT TO DO WITH IT AND BESIDES, IT WAS GOVERNMENT LAND AND YOU CAN DO ANYTHING YOU WANT ON GOVERNMENT LAND IN THE INTEREST OF NATIONAL DEFENSE.

IN THE 1950s A TREMENDOUS EXPLOSION OCCURRED IN THE URALS OF RUSSIA. SPENT FUEL HAD REACTED AND CONTAMINATED HUNDREDS OF SQUARE MILES. THAT AREA IS NOT IN USE TODAY AND WILL FOREVER BE UNTENABLE. ON THE HANFORD RESERVATION WE HAVE THE SAME SITUATION AND IT COULD GET WORSE. 3.4.3.8

THE FOLLOWING COULD HAPPEN IN THE AREA OF THE Z-TRENCHES: 1. LIQUID WASTE HELD IN A Z-TRENCH COULD LEAK AS IT HAS BEEN FOR FORTY YEARS. 2. THE WASTE PERCOLATES DOWN AND IS ENTRAPPED AND CONCENTRATED BY COLUMNAR CHROMATOGRAPHY IN WHICH DIFFERENT SUBSTANCES ARE SEPARATED OUT BY THE SOIL AT DIFFERENT DEPTHS DEPENDING ON THEIR MOLECULAR WEIGHTS AND PROPERTIES. THE PLUTONIUM IS ADSORBED [BOUND TO THE SURFACE OF SOIL PARTICLES BY MOLECULAR BONDS] INTO A RELATIVELY THIN LAYER OF THE SOIL. 3.4.3.8

A CHAIN REACTION IS SET OFF BY WATER PERCOLATING INTO THE PLUTONIUM RICH SOIL. THE HIGH TEMPERATURE OF THE PLUTONIUM WOULD CAUSE MASSIVE QUANTITIES OF HIGH PRESSURE STEAM TO FORM. THE EXPLOSION WOULD RESEMBLE A MUD VOLCANO AND WOULD PROJECT INTENSELY RADIOACTIVE AEROSOLS INTO THE ATMOSPHERE. THE END RESULT WOULD BE CONTAMINATION OF THE WHEATLANDS OF EASTERN WASHINGTON, CITIES CONTAMINATED, THE RIVER AND SUERFACE WATER MADE PERMANENTLY UNUSABLE. THE AREA WOULD BE ECOLOGICALLY DEAD AND THE PEOPLE INVOLVED WOULD WISH FOR DEATH'S RELEASE.

TODAY WE HAVE THE DOE INVOLVED IN: DISPOSAL OF CICILIAN WASTE, DISPOSAL OF MILITARY WASTE INCLUDING 17,000 TONS OF WASTE IN PLACE PLUS, NUCLEAR FUEL FROM SURFACE AS

(no comment identified)

114

I WALBRIDGE J. POWELL TO DOE JULY 15, 1986 PAGE 31

WELL AS SUBSURFACE VESSELS AS WELL AS THEIR REACTOR CASINGS (100 NUCLEAR SUBMARINES IN THE NEXT 20 YEARS); DEVELOPING A MINIATURE REACTOR FOR THE STAR WARS PUMPING LASER (ONE OF THESE WAS SCHEDULED FOR LAUNCH ON A SPACE SHUTTLE CLOSELY FOLLOWING CHALLENGER AND ONE COULD HAVE BEEN ON BOARD THE TITAN MISSILE THAT EXPLODED JUST ABOVE ITS PAD APRIL 18, 1986); PLOTTING THE SHIPMENT OF WASTE FROM A DEFENSE DEPARTMENT LOAN TO A COMMERCIAL REACTOR IN TAIWAN THROUGH THE PORT OF SEATTLE FOR RECYCLING AT SAVANNAH 3000 MILES AWAY; EXPERIMENTING WITH A WASTE ISOLATION PLANT IN CARLSBAD NEW MEXICO; ATTEMPTING TO DISIGN A SAFE CASK FOR TRANSPORTATION OF DEFENSE AND CIVILIAN WASTE (TARGET DATE IS 1996 ALTHOUGH SHIPMENTS FROM THREE MILE ISLAND ARE ARRIVING AT HANFORD EVEY WEEK); OPERATING THE PUREX PLANT FOR PRODUCTION OF BOMB MATERIAL AND PROCESSING OF SPENT FUEL FROM THE FAST FLUX TEST FACILITY (COMMENTS WERE DUE ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT JULY 7, 1986); AND INTERFERING WITH DR. ROBERT GALE'S EFFORTS TO DEVELOP A SYMPOSIUM OF U.S. AND SOVIET DOCTORS CHARGED WITH DETERMINING THE EFFECTIVNESS OF BONE MARROW TRANSPLANTS IN ALLEVIATING THE EFFECTS OF EXPOSURE TO RADIOACTIVITY .

THE BUREAUCRATIC ENTITY KNOWN AS THE DOE (I CALL IT THE DEPARTMENT OF EXTINCTION) IS ALSO BUSYILY COLLECTING FALSE DATA TO JUSTIFY THE CHOICE OF HANFORD AS THE SOLE NUCLEAR WASTE FACILITY IN THE US.

2.5.5 ONE OF THE PRIME CONTRACTORS IN ALL OF THE DOE'S PROJECTS IS ROCKWELL. ROCKWELL IS ALSO THE PRIME CONTRACTOR FOR THE SPACE SHUTTLE. WE CAN THEREFORE MAKE ASSUMPTIONS AS TO THE QUALITY AND RELIABILITY OF ROCKWELL'S WORK ON DOE PROJECTS.

I WOULD SUGGEST THAT YOU CONTACT YOUR CONGRESSMEN TOMORROW BUT THEY ALL SEEM TO BE OUT OF TOWN ON JUNKETS TO EUROPE AND ASIA. THEY SEEM TO THINK THAT THE WELFARE OF EUROPE AND ASIA ARE MORE IMPORTANT THAN THAT OF THEIR OWN PEOPLE.

THERE IS ONLY ONE WAY THAT WE CAN OBTAIN CONTROL OF THE DOE AND THAT IS THROUGH FINANCES. WHEN YOU CALL OR WRITE (PREFERABLY) YOUR CONGRESSMEN TELL THEM THAT YOU FEEL THAT THE DOE IS OUT OF CONTROL BUT THAT YOU AND YOUR FRIENDS KNOW OF A GOOD CANDIDATE FOR THEIR OFFICE WHO JUST MIGHT VOTE TO CUT OFF FUNDS TO IT. AFTER ALL, SHOULD WE TOLERATE A BUREAUCRACY WHOSE MOTTO SHOULD BE " WE SHALL BRING NUCLEAR WASTE TO THE MARKET PLACE AND DUMP IT THERE".

WALBRIDGE J POWELL

115

WASHPIRG
The Washington Public Interest Research Group
5628 University Way NE Seattle, WA 98105 (206) 526-8843

Statement on the Inadequacies of the U.S.Dept. of Energy's Hanford Defense Wastes E.I.S.

The Department of Energy is piecemealing the public to death. They refuse to discuss all related Hanford radioactive and toxic waste problems in one Environmental Impact Statement and one decision-making process. The issues are interrelated and the cumulative impacts from all the wastes at Hanford are so tremendous as to probably make Hanford the world's largest and most complex toxic waste dump. The people of the State deserve better treatment than to have the significance of the issues hid from them and their participation discouraged by the DoE's insistence on piecemealing the clean up problem in multiple thousand page EISes. The DoE evidently hopes that many of the problems at Hanford will fall between the cracks of public concern. Thus, the heart of our concern is that the Defense Waste EIS is totally inadequate in its scope. 2.3.1.14

The public deserves to know right now that this Environmental Impact Statement process of the DoE's is being dominated by cost considerations rather thatn the search for the best available technology or achievement of the maximum possible cleanup of contaminated areas. Any private industry which indiscriminately dumped its toxic wastes the way the DoE has would see its officials in jail and would be ordered to achieve the maximum possible cleanup - regardless of cost. Our testimony focusses on the incredibly flawed process being used by the Department of Energy - your purpose seems to be not to clean up your wastes but to convince the public that you have done so in order to continue producing huge quantities of wastes at Hanford as the byproduct of weapons production. 2.5.5 3.3.5.4 2.2.1

We challenge the operative goals of the process undertaken by the DoE in releasing the draft EIS. Spokespeople for the DoE have said they wish to use this process to determine what "tradeoffs" are acceptable to the public. 2.2.3

Tradeoffs are simply not acceptable to the public when it comes to clean up and disposal of the vast quantities of toxic and radioactive wastes dumped or stored at Hanford. We can not accept trading off either public health or the environment of a vast area of central Washington in exchange for saving the DoE money.

No private industry could seek to have the public consider cost "tradeoffs" in the clean up of a toxic waste dump under the Federal Superfund law (CERCLA). By what right does the DoE consider itself subject to a different standard when it comes to what is undoubtedly this nation's most complex and dangerous toxic waste dump - Hanford? 2.2.3

We demand an explanation as to the weight the DoE is giving to cost savings when deciding on "in place stabilization" versus an actual clean up and disposal of the wastes they have dumped at Hanford. The EIS quotes from the Hanford Defense Waste Management Plan (1975) to state that the decision will be made to go forward

116

with in place stabilization of wastes rather than actual clean up and disposal in a repository if the DoE determines that "short term risks and costs of retrieval and transportation outweigh the environmental benefits of disposal in a geologic mined repository." (EIS at vi)

2.2.3 We can not allow the DoE to decide that the cost of cleaning up the toxic waste dump, that they have made 600 square miles of central Washington into, is a more important criteria than the long term health of our public and environment for the eternity that these wastes pose a hazard for so long as they are left untouched or swept under a few feet of soil.

The scope of this EIS is also inadequate in that it wholly fails to describe for the public the scope and nature of existing contamination of the soils and groundwater of the Hanford Reservation. Ignored are hundreds of contaminated soil sites, contaminated ground water streams, the chemical and radionucleide content of soil disposal cribs and even the high level waste tanks. Replacing the required description in the EIS of the actual contamination of the Hanford environment are the most amazing public relations statements and terminology. Funny how the DoE has millions to spend on the PR for its defense waste management program but, cost is a factor in whether they clean up after themselves.

2.2.12 Rather than inform the public about the true nature of the severe threat that Hanford wastes now pose due to leaks and deliberate dumping practices, the EIS contains statements like this : "waste management practices at Hanford were shown (in the 1975 Environmental Statement for Hanford Waste Management and Operations) to safely and effectively isolate the waste on an interim basis." (EIS Foreword page v.)

2.2.12 With Uranium in the groundwater; plumes of contaminated groundwater from soil dumping heading towards the Columbia River; 500,000 gallons of high level nuclear wastes leaked from single shell tanks; soil heavily contaminated around the tanks; Plutonium from Hanford in the air and soil of downwind communities; HOW DARE THE DOE SAY :"Waste management practices at Hanford were shown to safely and effectively isolate the waste on an interim basis"?

3.5.1.26 Only to the DoE can 30 feet of dirt and crushed rock on top of leaking high level nuclear waste tanks be called a permanent solution or disposal of nuclear wastes. But with the expenditure of enough PR money they go one step further and call this a "geotextile barrier". To the public it's still nothing more than 30 feet of dirt shovelled on top of the most dangerous wastes known to humankind. **Futhermore, there is absoluteley no proof that this is any more effective at isolating these radioactive wastes from the environment than the DoE's literally, as well as figuratively, sweeping the leaking waste tanks under a rug.**

3.3.1.11 The DoE has excluded from the scope of the EIS any discussion of the significant technological and geologic problems with emplacement of defense high level nuclear wastes in a

078

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geologic repository. The DoE has apparently violated the National Environmental Policy Act (NEPA) by both failing to discuss these significant issues and through deciding to drop the construction of a second mined geologic repository. 3.3.1.11

NEPA requires the completion of an Environmental Impact Statement prior to ANY decision that may lead to adverse environmental impacts or which limits the choices on such a decision. NEPA further requires consideration of all relevant environmental information by the decision maker when a decision with adverse impacts or which limits future choices is made. That is exactly the nature of the decision made by the Secretary of Energy in announcing that there will be no second repository. In so doing, he has made the Defense Waste EIS a sham. He has foreclosed the option of a true clean up of the wastes in the leaking single shell high level nuclear waste tanks and the soil around them. In essence, the Secretary of Energy has decided that these wastes are not going to be placed in a repository because there is not room in one repository for all the defense wastes as well as the civilian nuclear wastes which must go into the repository. The State must proceed to challenge this decision and demand that it be set aside by the Federal courts for failure to consider the considerable environmental hazards of the "in place stabilization" , i.e., shovelling 30 feet of dirt on top of these wastes , option described in this draft EIS. 2.3.1.2 3.3.2.1

Clearly, the Department of Energy is running scared about its having violated the National Environmental Policy Act when the Secretary of Energy made the arbitrary, capricious, blatantly political and totally illegal decision to abanedon the second repository program. The Secretary of Energy's decision not only made it crystal clear that the DoE never intended to letscientific and legal issues suych as the groundwater movement in the basalt rocks under Hanford stand in the way of Hanford's selection as a high level nuclear waste dump BUT, he made perfectly clear that a total clean up of existing single shell tank wastes at Hanford and emplacing those wastes into a geologic repository would NEVER happen - and that this EIS on the defense wastes is a sham. 2.1.1

The DoE's Michael Lawrence is now playing point man for a scared DoE, which has been caught blatantly violating the National Environmental Policy Act. On July 8,1986, he released a brand new computation of the volume of wastes and a denial of a legal violation by claiming :"It is the rate of loading of the repository, not its capacity, that is most important."This subterfuge does not srtand up to scrutiny. 2.3.1.2

Appendix C of the Environmental Assessment of Hanford - a DoE document - shows vividly how the Secretary and Lawrence are misleading the public and violating NEPA. That document estimates that there will be 130,000 metric tons of high level waste from spent nuclear plant fuel rods alone by the year 2020. The maximum legal load for a repository is 70,000 metric tons. Lawrence admitsthat there is already 11,000 metric tons at Hanford in 3.3.5.7

tanks - 10,250 tons alone in the leaking single shell tanks. Additionally, there is 6,500 metric tons currently at other DoE facilities that must go into a repository. Simple addition makes 3.3.5.7 clear that the DoE violated NEPA by canning the second repository program and giving the shaft to Texas,Nevada or Washington State when we were made finalists in the high level waste dump lottery. Even the DoE should be able to add these numbers which prove Lawrence's math does not hold up, even if the DoE made the rather sensible decision not to produce any more high level nuclear wastes. Without any new wastes there is not room in even two repositories for all nuclear power plant fuel rods and DoE high level wastes - the DoE doesn't intend to put those single shell tank wastes in a repository despite putting out this EIS that lists this as an alternative. This violates NEPA.

3.3.2.1 We challenge the decisision to proceed with a "demonstration" of "in situ disposal" for the tank wastes, for which the DoE requests funding from Congress in its FY 87 budget for Hanford. So too must the State challenge the dismissal in the 3.1.4.1 EIS of clean up and removal of the contaminated soil envelope surrounding the waste sites.

We wish to comment on the failure of the EIS to address the clean up of the chemical toxic wastes dumped or stored at 2.2.11 Hanford. Any private dumpsite would have to meet the standards and timelines of the Resource,Conservation and Recovery Act (RCRA), Superfund (CERCLA) and the Federal Water Pollution Control Act. This EIS not only fails to discuss a total inventorying of dumped toxic wastes or a total clean up, but fails to discuss even meeting the same clean up standards that the owners of any toxic waste dump would have to meet if the owners were anyone but the U.S.Department of Energy. We fear that the "in situ disposal" or "in place stabilization" option that the DOE seems to have already chosen by default for much of 2.4.1.1 the Hanford nuclear wastes also condemns future generations to the exposure and groundwater contamination hazards posed by the chemical wastes - something that we no longer let private dumpers 3.3.2.1 walk away from without cleaning up. The greatest hazard from the failure to dispose of the chemical wastes is, perhaps, that these wastes constitute the speediest transport mechanism for moving the associated radionucleides out of the burial ground and through the soil to groundwater.

Even had the Secretary of Energy not precluded the geologic repository option (illegally), the draft EIS would still wrongly 2.2.11 lack a repository alternative for putting all all of the radioactive wastes - by volume - into a geologic repository. Instead, the repository option described in the EIS proposes only the majority of the wastes as classed by radioactivity would be 3.3.1.1 placed in the repository. Much of the wastes - still lethal - would remain in the tanks. Given that the geologic barrier system is the "best available technology" for disposing of wastes, and hte intent of NEPA is to require full consideration of a wide

range of alternatives, a true geiologic disposal alternative should be fully evaluated.. Dismissing this alternative, solely on the basis of cost, should not be a decision made by the Department of Energy.

An independent investigation of the efficacy of relying on the man-made barrier system should be conducted - given its contradiction of the Nuclear Waste Policy Act's reliance on geologic barriers because no man made barrier can be expected to 2.5.5 keep wastes out of the environment for tens of thousands of years.The final EIS should include full exploration of technologies other than grouting and the geo-textile barrier, 3.3.5.4 specifically the proposed technology described in the State of Washington's comments. The technologies described in the draft EIS are largely untested and, therefore, do not deserve status as the only technologies to be considered.

Three recommendations follow on ways to improve the decision 2.3.2.8 making process for the EIS. Improving the process is necessarry to ensure that adequate public involvement and public confidence exist in the decision making process, and that NEPA is not violated.

Answers to many of the basic questions about the defense 3.1.1.1 wastes are still lacking : What are the exact contents of the individual tanks ? (only the contents of the tanks in aggregate is known); How reliable is the technology of grouting in isolating the wastes ? (the EIS states that "soluability" of grout is not known); How will the wastes be monitored, since the monitoring equipment must puncture the protective barrier ? The public must have the right to review and comment on the DoE's plans as answers to these basic questions are found. This is the last public hearing which the DoE has gauranteed the public. This is not acceptable.

Another EIS is only planned if the data on these unanswered 2.3.2.3 questions exceeds the bounds of what is currently expected. The intent of NEPA, however, is to compare detailed alternatives. Thus, it is inappropriate for the DoE not to plan for an additional public input process. The public is being forced to operate in the dark without the basic information needed to evaluate the alternatives.

A formal process of independent review of the fact finding process on these basic questions is also warranted. The DoE 2.5.5 suffers from a lack of credibility with the public due to past mismanagement of the wastes at Hanford. This credibility was not improved when , at the defense wastes workshop in Seattle, a DoE 3.5.4.8 official told the public that all of the waste at Hanford could be dumped in the Columbia River, and no harm to human health or the environment would ensue. Such an independent review should be conducted by both the Stat and the National Academy of Sciences - with funding from a DoE "Superfund" style account. The DoE should 2.2.9 be required to set aside the clean up funds as soon as possible, lest they never be appropriated.

117

James Acord
507 Third Ave. -unit 914
Seattle, WA. 98104-2355

I belive that any study involving the safe storage of radioactive materials for tens of thousands of years should look to ~~such~~ objects created by the hand of man ~~which~~ that are that old. Works of sculpture, often fashioned at the higest level of existing technology from worthy and lasting materials, have lasted this long and are in our museums today. Therefore, I propose the creation of great and lasting works of sculpture to safely contain our nuclear wastes in a program of monatered retrevable storage. The waste of a civilazation's purposfull production is a shadow-immage of that civilazation. I belive our existing nuclear technology is in need of the guildance and disapline that will come from its integration into Fine Art.

3.3.5.2

3.3.4.2

0080

We must, I repeat: we must undo the constraints put upon us by the federal government with its establishment of a deadline for the selection of what now appears to be the only final nuclear dumpsite. This will take the pressure off all involved. 2.2.6

This waste should not be stored in any state, in any country, in any place on earth. People have known since 1945 that nuclear waste is the biggest problem in working with nuclear materials - yet we continued. And here we are, not knowing what to do. 3.3.5.1

Please God, let us not hurry this. Let us form a movement to change the time table.

Eva Perret
739 35th Ave.

Seattle Post-Intelligencer, Wednesday, August 28, 1985 C11

'Our State Is a Dumpsite'

OUR STATE IS A DUMPSITE by Dana Lyons, Copyright 1985
(reprinted with permission)
I lost my job here fishing and opened up a store
I buy and sell reactors, cooling towers, and lead doors
We've got a brand new industry bearing fruit of finer taste
We sell juice to California and get paid to keep the waste

CHORUS:
Our state is a dumpsite, plutonium 239
Our state is a dumpsite, just set it over there, that's fine
Our state is a dumpsite, we'll take whatever you send
Our state is a dumpsite, where the hot times never end

We don't just make the power, we also build the bombs
The dollars never stop from Washington to Washington
The other states all love us cause we rarely take a stand
They send us little presents and put money in our hands

CHORUS

So now I'm fat and wealthy cause my business here has grown
I sell lamps that don't plug in and heaters for your home
Progress and technology, for us they've sure been great
We're singing here in Washington, the everglowing state

Our state is a dumpsite, plutonium 239
Our state is a dumpsite, just set it over there that's fine
Our state is a dumpsite, our fate is to mutate
We're singing here in Washington, the ever glowing state
repeat

Record and cassette (4 song album on 12" record) available by mail. Send check for $6.00 (includes shipping) to: Reigning Records, P.O. Box 45451, Seattle, WA, 98145. Please allow four weeks for delivery..

(no comment identified)

119

From Paul Roberts
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Fusion Energy Foundation

2.5.8

Nuclear Report

United Kingdom Atomic Energy Commission

Nuclear Waste: Don't Bury It, Recyle It As Fuel

by Marjorie Mazel Hecht

If all the electric power used by one man during his lifetime were generated by nuclear power alone, the amount of radioactive waste that would be produced would fit in a piece of glass this size.

What we call nuclear "waste" is actually a valuable resource. More than 96 percent of the so-called waste produced by nuclear reactors can be reprocessed to be reused as uranium or plutonium fuel; only about 4 percent is actually high-level radioactive waste that requires disposal. And even this high-level waste could be transformed into a resource: Advanced isotope separation technologies could separate and concentrate it into its constituent isotopes—including costly and scarce strategic metals like rhodium, ruthenium, and palladium.

By treating as "waste" all of the spent fuel produced by a single 1,000-megawatt nuclear plant over its 40-year lifetime, the United States throws away the equivalent of 130 million barrels of oil or 37 million tons of coal. This does not even take into account the value of the strategic metals and other isotopes that could be "mined" from the high-level waste.

During the Atoms for Peace years, one of the selling points for nuclear power was its closed fuel cycle, because it was clear that this would cheapen the use of nuclear power and ensure a steady supply of fuel no matter what became of the natural uranium supply. The other nations that went nuclear—Canada, France, England, Japan, and the Soviet Union, for example—completed the nuclear cycle and are reprocessing their fuel. What happened here?

The answer has little to do with the technology involved; it is a political question. From the beginning of the nuclear age, scientists and the government were convinced that the disposal of high-level nuclear waste was technologically feasible and safe.

Thirty years ago, in 1957, the National Academy of Sciences recommended that high-level waste could best be disposed of by burial in geological salt formations. In a report to the Atomic Energy Commission, the NAS committee stated that it was convinced that "radioactive waste can be disposed of safely in a variety of ways and at a large number of sites in the United States." They advised the immediate investigation of a "large number of potential future sites as well as the complementary laboratory investigations of disposal methods" so that the nation would be prepared to handle the waste expected from an increasing number of civilian reactors.

This was then accepted as U.S. policy, with the general assumption that the United States would develop commercial reprocessing facilities and that only the high level waste remaining after reprocessing would require permanent disposal. The Oak Ridge National Laboratory in Tennessee conducted further studies, and by 1969, Oak Ridge had developed a design for a repository for high-level waste in deep salt deposits.

A site was selected in Lyons, Kansas, to test the suitability of salt burial in 1971, after an advisory committee appointed by the President concluded that "the establishment and burial of high-level waste can be carried out safely." The Lyons site was abandoned in 1972 as *inappropriate, however,* when the AEC discovered that salt mining was still going on a few miles away. The Atomic Energy Commission then began to develop an interim plan for a Retrievable Surface Storage Facility, which it expected to begin receiving waste for storage in 1980.

This concept was overturned in 1975, however, when the successor agency to the Atomic Energy Commission, the Energy Research and Development Agency or ERDA, decided once again to pursue a site for a salt repository and investigate other geological possibilities for repositories. ERDA's aim was to

have an operational salt repository by 985.

ERDA abandoned the idea of interim repositories not because of any technical difficulties, but under pressure from the environmentalists and the Environmental Protection Agency, which charged that the repositories would become "permanent dumping grounds."

Then Came Jimmy Carter

Then came the Carter administration. President Carter banned the reprocessing of spent fuel in 1977 on the basis of nonproliferation; reprocessing facilities, the administration said, would make plutonium accessible to terrorists who could then convert it to a weapons-grade fuel.

Carter guaranteed that the waste issue would remain a political football. By then the antinuclear movement was off and running, with the President on their side. In looking at what Carter did, it is hard to avoid the conclusion that his administration hoped the antinuclear movement would be able to use the waste issue to bury civilian nuclear power in the United States.

At the same time that Carter chose to make burial of nuclear waste the only option for the United States by eliminating reprocessing, he also bogged down the plans to build a repository for high-level waste by creating a new interagency bureaucracy (the Interagency Review Group on Nuclear Waste Management).

The political battle today over where the waste repositories should be located is the legacy of that bureaucracy and the antinuclear obstructions it encouraged.

Under the provisions of the Nuclear Waste Policy Act, signed into law in 1983, the Department of Energy has tentatively named three sites (narrowed down from nine) for the nation's first repository and is awaiting a final environmental assessment from the National Academy of Sciences on these sites (Hanford, Washington; Yucca Mountain, Nevada, and Deaf Smith County, Texas). After further evaluation (which includes the construction of exploration shafts 1,000-4,000 feet deep to determine rock conditions), the President will select the final site in 1991.

The schedule is then to have the Nuclear Regulatory Commission issue a construction permit in 1993, and to have spent fuel and high-level waste begin to come into the first repository by 1998.

The site selection for a second repository is also mandated, this one to be located in the Eastern or Midwestern United States. Twelve potential sites were recently announced, which set off the environmentalist howls. This list is expected to be narrowed down to five by 1989, and then three sites will be presented to the President in 1993 for him to choose. A final decision is scheduled for 1999, with the construction permit obtained in 2002. The recommended budget for both depositories is $769,349,000.

All of these sites are being extensively researched by the national laboratories and other contractors for the Department of Energy for geological considerations. In addition, there has been ongoing research on the most efficient way to prepare and store such waste.

The only way to understand why a project for burying nuclear waste that was deemed both feasible and safe in 1957 is still on the drawing boards in 1986 is to look at the decline of cultural optimism in the United States and the necessarily parallel growth of the environmentalist movement.

The opponents of nuclear power and the industrial growth that it symbolizes understood very well that their enemy was "technological optimism." The Office of Technology Assessment consultant on the waste management issue, Daniel Metlay, wrote the following about the Atomic Energy Commission in the March 1985 OTA report on waste:

"An illusion of certainty was created where, in reality, none existed. Over the years, the sense of technological optimism embedded itself in the attitudes and thoughts of important agency policymakers. It became, in a sense, an official doctrine at AEC. There is no evidence that its validity was ever seriously questioned until the mid-1970s. . . ."

The Reprocessing Story

In the early days of the nuclear age, that there would be a commercial reprocessing industry was taken for granted by the cultural optimists. Thus, the permanent burial of waste was not seen as urgent, and the research proceeded to test geological formations over a period of years.

But commercial reprocessing—a 40-year-old technology—was aborted in the United States, despite its advantages both in reducing the amount of waste that has to be disposed of and in rendering the high-level waste in a less soluble, hence safer, form.

Although France began commercial reprocessing in 1958, the first U.S. commercial reprocessing facility did not open until the late 1960s. The West Valley, N.Y. plant, operated by Nuclear Fuel Services, was reprocessing commercial spent fuel from 1966 to 1972. The plant was in the process of modernizing and expanding to handle a larger volume of waste, when the environmentalists intervened to delay the Nuclear Regulatory Commission's licensing of the expansion. Finally, in 1976, the private owner gave up entirely because it had become too costly to maintain an unused plant.

Another reprocessing facility in Morris, Ill., built by General Electric in the early 1970s, never opened because an unanticipated design flaw caused by new regulatory requirements necessitated changes in the plant that GE deemed too costly to make.

A third facility at Barnwell, N.C., operated by Allied General Nuclear Services, is the one that President Carter stopped in 1977—when it was 75 percent completed—with his ban on reprocessing. At the same time, Carter's actions halted the plans of the Exxon

What Is High-Level Nuclear Waste?

The spent fuel from a nuclear plant is removed after about three years in the fuel assembly, when the concentration of the fissile uranium-235 in the fuel is less than about 1 percent and the chain reaction is impeded. A 1,000-megawatt nuclear plant would replace about 60 of its fuel assemblies per year.

The spent fuel includes uranium and plutonium (if not reprocessed), all the fission products that have built up in three years or so of operation, and very small amounts of some transuranic elements (heavier than uranium)—neptunium, americium, and curium, among others—which have very long decay times.

Initially, the spent fuel is very hot, generating about 221 megacuries of radioactivity and 2.2 megawatts of thermal heat per metric ton. The spent fuel is stored in water pools to cool it and to provide radiation shielding. After one year in the water, both the radioactivity and the heat output decline by factors of 88 and 216, respectively. In other words, after a year or so, the total radioactivity level is about 12 percent of what it was when it first came out of the reactor, and after five years, it is down to just 5 percent.

How long do these most hazardous isotopes live? Unlike other poisons like lead or arsenic, radioactive isotopes become harmless with time. This decay process is measured in terms of "half-life," which refers to the amount of time it takes for half of the mass to decay. While a few radioisotopes have half-lives on the order of thousands of years, the hazardous components of nuclear waste rapidly decay to a radioactive toxicity level lower than that of natural uranium ore. To take the example given by the Electric Power Research Institute, "the strontium in waste becomes less toxic than natural uranium ore in 450 years. The total waste, including plutonium, becomes less toxic in 500-1,000 years, depending on the fuel history. . . ."

Note that if the waste is not reprocessed, it takes 10,000 years for the toxicity to fall below that of natural uranium.

Radioisotopes As Resources

Separating out some of the nearly 500 radioactive isotopes from high-level nuclear waste not only creates a valuable new resource for medicine and industry; it also vastly lessens the toxicity of the remaining waste. In effect, removing the radioactive isotopes from high-level nuclear waste is like "aging" the waste—the radioactivity is decreased. For example, if cesium-137 and strontium-90 are removed, the effect will be that of aging the waste hundreds of years. If the platinum group metals are also removed—neptunium, americium, and technetium, for example—this has the effect of aging the waste thousands more years.

Many of these radioisotopes are already in use. There are now between 80 and 100 million medical procedures yearly, for example, that use nuclear isotopes. In addition, the Department of Energy has an extensive plan for recovering and using these nuclear by-products for defense as well as civilian purposes.

- Plutonium-238 is now used to power heart pacemakers, as well as small reactors in space.
- Ceslum-137 is used as the radiation source in food irradiation plants and is experimentally being used to process sludge—turning sewage into a pure and usable fertilizer product.
- Strontium-90-powered radioisotope-fueled thermoelectric generators (RTGs) have been used to provide electric power for remote weather stations as well as remote surveillance stations, navigational aids, and defense communications systems. A strontium-90 thermomechanical generator is now being developed for use with low-power radar systems and remote emergency power sources.
- Krypton-85, tritium, and promethium-147 are used in self-powered lights. When the first spacecraft docked, it was promethium-147-powered lights that guided the final maneuvering. These lights use beta-emitting radioisotopes to activate phosphors, and are particularly appropriate for remote or tactical applications. The promethium-147 is especially promising because it requires considerably less shielding than the krypton-85.

Nonradioactive krypton is also used in fluorescent and incandescent lights, where it is superior to nitrogen or argon. Since natural krypton gas is scarce, it could be profitably "mined" from the fission product krypton.

- The platinum group metals—including platinum, palladium, rhodium, iridium, ruthenium, and osmium—are costly imports for the United States, which uses about 35 percent of the yearly world production and imports nearly 90 percent of this. (South Africa produces 46 percent and the Soviet Union 48 percent of the world supply.) Advanced isotope separation processes will be necessary to develop these resources to maximum advantage.

These metals have a high melting point, chemical inertness, catalytic properties, and refractoriness, according to the Department of Energy plan for nuclear by-product use. They are now used in industry as catalysts and inhibitors of corrosion, in electronics, and in medical applications. As the National Research Council noted, the platinum metals are "generally either the only material that can be used or the most cost effective of the available options, and therefore, replacement seems unlikely to be significant. Indeed, the usage trend seems likely to accelerate more rapidly over the forecast period than at any other time in history.

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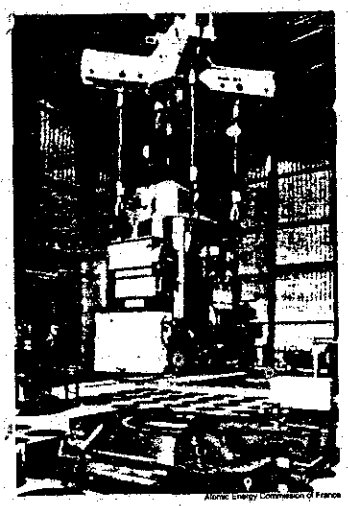
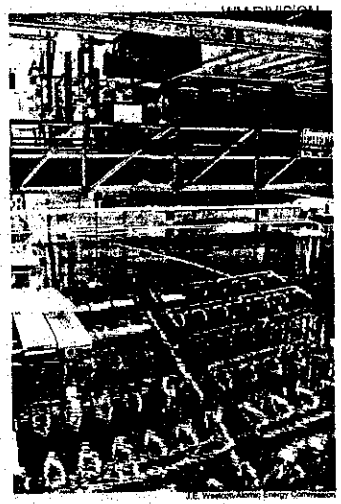


Atomic Energy Commission of France



J.E. Wessolo, Atomic Energy Commission

France has pioneered in nuclear waste storage. At left, France's AVM vitrification plant at Marcoule, where steel canisters of radioactive waste are stored dry in air-cooled wells under ground. Right, unlike the other major nuclear nations, the United States now has no commercial reprocessing of nuclear waste. Here, General Electric's reprocessing plant at Morris, Ill., which never opened. Shown are the water-cooled basins where spent fuel is stored pending reprocessing or burial.

Nuclear Co. to build a commercial reprocessing plant in Oak Ridge, Tenn., which was planned to be larger than the other three plants.

The Reagan administration could have rescued the Barnwell plant in 1981, but as with the Clinch River breeder reactor, Reagan chose to *abandon* this technology to a "private enterprise" system so sunk in the depression that it could not pick up on these major infrastructure development projects. Reagan also reversed Carter's policy of providing federal facilities for utilities to store spent fuel, and again made this the responsibility of individual utilities.

How Much Waste?

The closed West Valley reprocessing plant has about 234 metric tons of high-level waste from its reprocessing of spent fuel, and both the Morris and Barnwell facilities have storage pools for spent fuel. Other spent fuel is stored, at the nuclear plants where it was generated, in water-filled basins to dissipate the heat and allow the decay of the short-lived fission products. By the end of 1983, there was an estimated 4,600 cubic meters of spent fuel being stored at plant sites, with about 620 cubic meters additionally expected each year.

There is no problem in continuing to store spent fuel in these pools for 30 to 35 years, but according to Department of Energy estimates, the interim storage room available at plant sites will be full by the end of the 1980s.

In addition to the commercial spent fuel, there is also a much larger volume of high-level waste from the defense program, 324,000 cubic meters. This waste is stored at government facilities in Hanford, Wash., Savannah River in South Carolina, and in Idaho. The defense waste has all been reprocessed at the two government-operated reprocessing facilities.

Although the commercial spent fuel is only about 1 percent of the volume of defense waste, it has a higher level of radioactivity and heat output because the defense waste is diluted. The Department of Energy estimate is that defense waste has a radioactivity of 1,370 megacuries, while the commercial waste has a radioactivity of 35,700 megacuries. (One curie is the quantity of radioactive isotope that decays at the same rate as 1 gram of radium, 3.7 × 10^{10} disintegrations per second.)

To get an idea of the relatively small physical dimensions of the problem: All the high-level waste from U.S. commercial nuclear plants would fit into one 1.5 square mile *underground* repository.

The Technology of Disposal

There is no mystery to the permanent burial of nuclear waste. The basic method used today in France was actually developed in the 1950s by Brookhaven National Laboratory, and there has been a steady stream of improvements in the technology to make the waste more stable.

The liquid waste is mixed with glass frit, and then poured into a 1-inch thick stainless steel canister that is 10 feet high and ½ to 2 feet in diameter. The canister is heated until the glass melts and then it is cooled, which fixes each atom of the waste solidly in the borosilicate glass. The canister is then packed in another barrier of molded steel, and the entire assembly is surrounded with a metal or ceramic corrosion barrier. Finally, the assembly is buried in a specially designed vault in a geological formation in salt, volcanic rock, or granite, which forms an additional barrier. The United States has been testing various geological formations to see which are the most stable for long term storage.

The general principle is to set up a system of multiple barriers, to ensure that no radioactivity is released.

The tests that the French have done on this vitrified waste indicate that after 900 years of storage time, the glass will still be a satisfactory storage medium. According to the International Atomic Energy Agency, such glass is so stable that even if placed in flowing warm water, "it would take 100 years to dissolve away about 1 millimeter of the surface of such a glass."

There have also been advances in the preparation and transportation of fuel. For example, the casks for transporting waste are probably the best designed containers ever made. They became famous in films made by the Sandia National Laboratories showing trucks with waste casks colliding full speed with a locomotive or crashing into a wooden structure. In all these dramatic tests, the cask emerged unscathed.

Alternative methods of waste disposal have been developed that are also ready now. For example, fluidized bed calcining, developed at the Idaho Chemical Processing Plant near Idaho Falls, solidifies the waste and stores it dry. The defense waste at the Idaho facility has been stored in this manner.

The Future

The pioneers of the atomic age saw the Atoms for Peace program as a way to lift mankind out of poverty worldwide and into an age of plenty. Their technological optimism is as right today as it was in the 1950s. We should be mass producing nuclear plants for domestic use and export and we should overturn the present "throwaway" nuclear fuel cycle and implement a reprocessing program. If we immediately gear up to reprocess nuclear waste and turn 96 percent of it—and probably all of it—into new resources, there would be no problem of nuclear waste burial.

KEVIN FOR US CONGRESS '86

Press Release: **Testimony presented by Democratic Candidate, For U.S. House of Representatives, Kevin McKeigue To Department of Energy on Hanford, Washington Nuclear Wastes**

As is true for all research, the scientists assumptions are critical, and most often determinant, to the outcome of an analysis. The EIS presents several such assumptions.

(1) that government control will exist until the year 2015

(2) the transportation of nuclear wastes is of minimal concern

(3) that it is necessary to move into the action phase in the near term

3.3.4.1 With respect to the third assumption -- the need to act soon. This is both incorrect and potentially dangerous. We must consider both the exponential growth of scientific knowledge as well as the focus and commitment towards this issue exhibited by the scientific community. An inordinate, and daresay, extremely excessive, amount of zeal and enthusiasm of today's research scientists is being directed towards the development of systems for war-making and bloodshed. Should we assume this trend is continuous? Were we to move towards a "Nuclear Thaw Initiative" and demilitarization, would we not experience a shift of scientific genius and focus towards problems such as the disposal of nuclear wastes? Are you sure your analysis is not the work of competent, but not outstanding research as those types of scientists are preoccupied with the issues of weapons of mass destruction, nuclear and otherwise? I wonder, and as such feel action at this point is premature until the more important, more basic, more fundamental issue of World Peace is dealt with reasonably and mannely.

2.5.6

The assumption that government control will exist until at least 2015 is a bit shaky. It is admirable bordering on the totalitarian that such an assumption is made. I suppose you are confident that only pacifists such as Greenpeacers will venture onto the Hanford Site. It as admirable bordering on the fascistic to make the assumption that the area is safe and secure from terrorists. (I would suggest this assumption would be more realistic were our leaders to choose to deal with the fundamental causes of peoples dissatisfaction with the policies of the U.S. Government.) I suggest the fundamental issue of World Peace, would not only redirect the energies of scientists, but also reduce the potential danger of terrorism, and more importantly allow us as a nation to deal with the maldistribution of food,shelter and medical care that is plaguing the planet.

3.4.3.7

The report's third assumption -- the transportation issue -- is certainly the weakest. We need only remember the sad flight of the Challenger to be a bit more sober and realistic concerning the transportation of sensitive cargo. Would not an accident like Bhopal or Chernobyl severely restrict the movement of nuclear wastes? What then? I did not see this issue addressed in your summary document published in March, 1986, or did I just miss it? So here too I have problems with your analysis; again I suggest you are putting the cart before the horse by dealing with the waste issue before resolving the World at War issues which is our current state here on Earth.

3.4.22

This brings me to my next point. What of your assumption concerning the continued proliferation of nuclear wastes? This assumption is a crime against humanity in the truest sense of the word crime. To continue to manufacture substances which are potentially lethal, not for just a few years, or even a few hundred years, for thousands of years is irresponsible to the nth degree. Why do you feel you have the authority to do this? You also point out the increase of commercial usage of nuclear energy. Why do you feel you have the right to license such activity? Who exactly gave you the right to toxify the environment of generations far beyond that time of recorded history? This EIS report is simply unacceptable, illogical, and immoral. For me, I believe government must follow a code of ethics. You appear to be following a code of expediency, opportunism, and cost-benefit analysis based on short term thinking and highly questionable assumptions.

2.5.6

2.3.2.10

You have insulted the integrity, intelligence and spirit of not only the People of the State of Washington, the People of the World, but even that of our children's children's children.

2.5.5

I suggest you put this disposal issue on hold, stop production of nuclear materials, spend the funding freed up on increased benefits and training programs for the displaced persons and begin substantial research and development into programs for solar energy utilization. In the 60's many were told that the future was in plastics; in the 90's that the future was in Wall Street, and now in the 80's its more nukes and Star Wars.

I am afraid if the policies this report suggests are followed what many have toiled for will go up in a puff of smoke -- and as a result the middle generation will not be able to enjoy their children, nor the seniors ever see their grandchildren. I am suggesting to you personally, and to the Department of Energy as a whole, that the future lies in the energy of the Sun, in the practice of Peace, and the meaning of Love.

I look forward to working with you all in DC, so have a good day, and peace be with you.

122

[illegible] July 7 [illegible]

I am writing you to express my concern about the processes by which Hanford was selected as the primary nuclear waste dump. The department of energy as you well know is a government agency that is out of control. Hiding behind a veil of secrecy, it has developed its own sense of "what is good" for you and I. Public input and informed decision-making by and for the people as and always has been the very basis for our democracy.

2.5.5

It is necessary at this time to re-evaluate how this important waste storage decision was made. As you know criteria were established to ensure safeguarding lethal materials. DOE often primarily based its decision on political expediency. There is no place in this technologies world for seat-of-the-pants and long-lasting decisions to cover federal politics. We are unfortunately in the position, in today's world, of being the keepers of the health and welfare of not only the people of the United States but of all the living things on the face of the earth. I know you understand this.

If we are bold and foolish enough to put ourselves in this position, I only hope we are careful in controlling such power. We must recognize our responsibility and realize our limitations. Topic (nuclear or chemical) waste storage must be done in the safest manner possible. Cost or politics is not the issue. Responsibility and the ultimate morality questions we have ever faced are the issues.

3.3.5.4

We must not store nuclear waste with the intent of "watching over it for a hundred years." We must do the best job of watching it and more importantly storing it that we can. We must insure safety for future inhabitants of the earth as well. 2.2.3 2.2.1

This whole issue raises the question of government secrecy. Our president would foolishly prefer to sweep the whole matter under the rug. He believes he and his administrators know what is best. It's a good thing there are three branches of government. I know you will do your best to keep the public informed. Thank you for your time.

Sincerely,

Gary Brick

Conscience
AND MILITARY TAX CAMPAIGN
CMTC 453½ Univ. Way N.E. #204 Seattle, WA 98105
(206) 547-0952

JULY 15, 1986

TO THE DOE
HEARINGS ON FEDERAL NUCLEAR-WASTE REPOSITORY AT HANFORD

MY NAME IS RICHARD WOOD. I AM THE CO-ORDINATOR OF THE CONSCIENCE & MILITARY TAX CAMPAIGN. I WILL ALSO BE SPEAKING TODAY ON BEHALF OF LILLIAN FORD FOR THE SEATTLE NONVIOLENT ACTION GROUP. LILLIAN AND 10 OTHER WOMEN CANNOT BE HERE TODAY BECAUSE THEY ARE INVOLVED IN A PROTEST AGAINST THE VIOLENCE AGAINST WOMEN IN THE PUGET SOUND AREA.

THE ORGANIZATIONS WHICH I AM REPRESENTING TODAY OPPOSE THE USE OF TAXPAYERS MONEY FOR THE NUCLEAR ARMS RACE AND THE RADIOACTIVE POISONING OF THE ENVIRONMENT AT HANFORD AND ELSEWHERE IN THE U.S. WE ADVOCATE STRONG & PERSISTENT ACTION ON THE PART OF AMERICAN CITIZENS TO BRING AN END TO THE NUCLEAR NIGHTMARE WHICH PLAGUES US AND IS EMBODIED SO PERFECTLY AT HANFORD. 2.5.6

Conscience
AND MILITARY TAX CAMPAIGN
CMTC 4534½ Univ. Way N.E. #204 Seattle, WA 98105 (206) 547-0952

IT IS CLEAR TO US THAT STORING AMERICA'S NUCLEAR
garbage AT HANFORD, WHERE IT CAN BE REPROCESSED
2.1.3 FOR USE IN THE PRODUCTION OF NUCLEAR WEAPONS, IS
A CONVENIENT CHOICE FOR THE D.O.E. BUT SUCH A
CHOICE IS UNCONSCIONABLE AND THE RESIDENTS OF
THE NORTHWEST ARE PREPARED & DETERMINED TO
RESIST IT.

IT IS ALSO CLEAR THAT THIS DEPARTMENT HAS NO
REGARD FOR THE HEALTH OF THE RESIDENTS OF THE
TRI-CITIES OR THE INTEGRITY OF THE NATURAL ENVIRON-
MENT THERE. YOUR DEPARTMENT AND OTHER SIMILAR
AGENCIES HAVE ROUTINELY DESPOILED THE AREA WITH
2.5.5 THE MOST POISONOUS ELEMENTS EVER CREATED. YOU
HAVE DONE THIS & CONTINUE TO DO THIS FOR ONE
PURPOSE ONLY: THE DEVELOPMENT OF NUCLEAR
WEAPONS IN WHICH TO THREATEN OTHER NATIONS INTO
SUBMITTING TO YOUR GOVERNMENT'S WISHES OR TO
CARRY OUT THEIR DESTRUCTION IF THEY OPPOSE YOU.

IN THE MEANTIME, YOU SLOWLY DESTROY YOUR OWN
CITIZENS AND THIS SACRED LAND!

124

Conscience
AND MILITARY TAX CAMPAIGN
CMTC 4534½ Univ. Way N.E. #204 Seattle, WA 98105 (206) 547-0952

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AS OTHER GROUPS & INDIVIDUALS HAVE POINTED OUT
TODAY THE "SCIENTIFIC" JUSTIFICATION FOR HANFORD'S
SELECTION AS THE SITE FOR THIS REPOSITORY IS 2.5.5
COMPROMISED BY ITS TIES TO THE DOE AND THE
NUC. INDUSTRY.

SIMILARLY, "~~SCIENTIFIC~~" THE SCHOLARSHIP WHICH
ASSURES US OF THE SAFETY OF HANFORD'S OPERATIONS
IS CRIMINAL IN ITS EFFECTS AND COMICAL IN
ITS OBVIOUS POLITICAL INTENT.

Conscience
AND MILITARY TAX CAMPAIGN
CMTC 4554½ Univ. Way N.E. #204 Seattle, WA 98105

(206) 547-0952

You will proceed to make this decision without regard to our passionate opposition. We know

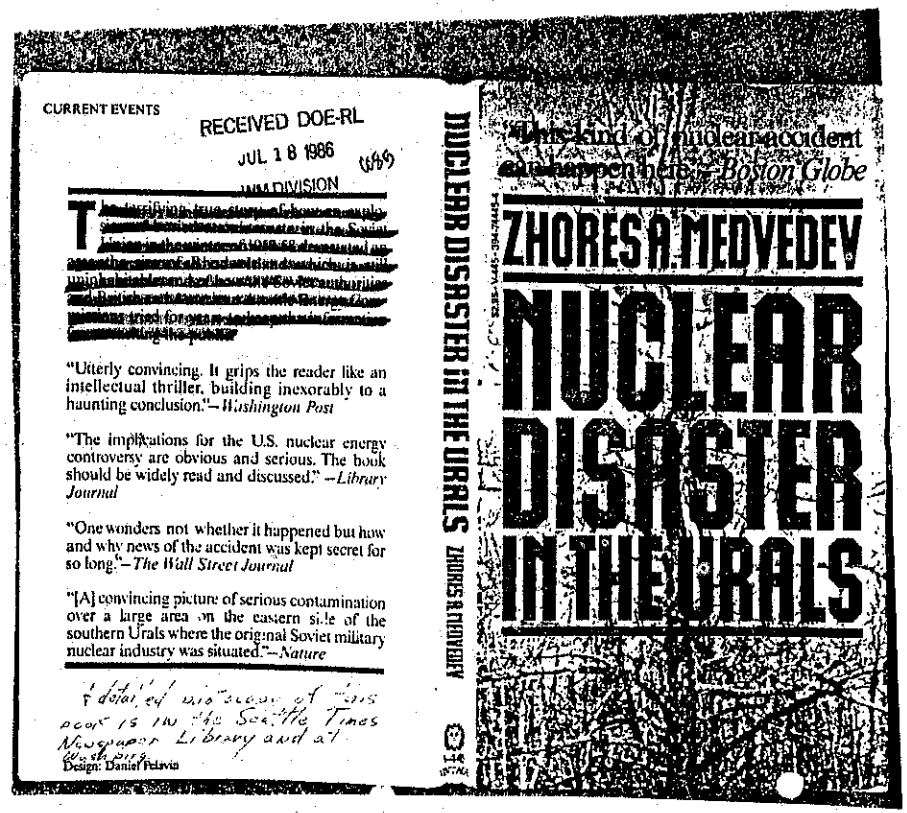
2.5.5 that wherever you want the Repository to go, that will be the location at which it is constructed. Just as in the past, without our consent you have released radioactive gases, liquids & particles, buried wastes in cardboard boxes, and brought about the deaths of hundreds through your intentional or accidental negligence.

125

We protest this Hearings process as a lie

2.3.2.8 and a farce. We protest your Nuclear Industry, your Federal Repository & your future Chernobyls and Nuclear Incidents. We will resist you in order to survive.

Richard H. Wood
1830 29th Ave. E
SEA., WA 98112
206- 325- 8999



Tuesday, April 29, 1986 The Seattle Times A 3

...clear plant

Other nuclear accidents

Here is a list of major atomic power plant accidents reported outside the United States: [redacted]

3.4.3.1 ■ [redacted] occurred in the Soviet Union during the winter of 1957 and 1958, according to a U.S. report published more than two decades later. In February 1980 the Oak Ridge National Laboratory in Tennessee, using CIA data and Soviet scientific publications, corroborated claims by an exiled Soviet scientist that a wide area of the central U.S.S.R. was contaminated by radiation by an accident near Kasli, 190 miles north-northeast of Magnitogorsk, in Chelyabinsk Province, on the eastern side of the Ural Mountains. The report said the [redacted]

■ On Oct. 10-11, 1957, an overheated reactor at Britain's Windscale plutonium production plant in Cumberland burned for 24 hours, leaking radioactive iodine that contaminated 200 square miles and prompted a temporary government ban on milk in the area. A government report later said the accident posed no health threat.

— United Press International

Soviet nuclear accidents never have been reported in the Soviet Union, nor confirmed by Soviet officials. *Never Done Even Now*

However, exiled Soviet scientists have said there was a major nuclear accident in the Chelyabinsk region of the Ural Mountains in 1958 that killed hundreds of people and contaminated a large area. The region has since been off limits to everyone.

[illegible] Times 4-28-86

085

HANFORD DEFENSE WASTE ENVIRONMENTAL IMPACT STATEMENT
PUBLIC HEARING

AUDIENCE QUESTIONNAIRE

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WM DIVISION

1. How did you learn of the hearings?
   Newspaper ___ Radio ___ TV ___ Mail ___ At work ___
   Word of mouth X Other (please specify) ___

2. Did you attend one of the Hanford Defense Waste Open Houses in February or March? Yes ___ No X

3. Did you attend one of the Hanford Defense Waste Informational Workshops in May or June? Yes X No ___

4. Did you have access to a copy of the Draft Environmental Impact Statement or the Summary? Yes ✓ No ___

5. Please rate each of the following:

	Very Good	Good	Fair	Poor
. Hearings moderator		X		
. Procedures for recording comments		X		
. Physical arrangements		X		
. Process for requesting to comment		X		
. Five minute comment period			X	

6. Please share any additional comments you may have about these hearings.
   A nuclear [illegible] blew up in 1957 [illegible] [illegible] unless [illegible] are used we could [illegible] this same accident. 3.4.3.1

7. Any additional comments about the process of submitting written comments on the Draft Environmental Impact Statement?
   [illegible] the Ural [illegible]!!!

THANK YOU FOR ATTENDING THIS HEARING AND TAKING THE TIME TO FILL OUT THIS QUESTIONNAIRE.

[illegible] 14th Ave. E. #207
Seattle, WA. 98112

HANFORD DEFENSE WASTE ENVIRONMENTAL IMPACT STATEMENT
PUBLIC HEARING

AUDIENCE QUESTIONNAIRE

6.

1. How did you learn of the hearings?
Newspaper ✓ Radio ✓ TV ___ Mail ___ WM DIVISION ___
Word of mouth ✓ Other (please specify) _____

2. Did you attend one of the Hanford Defense Waste Open Houses in February or March? Yes ___ No ✓
Never heard about it

3. Did you attend one of the Hanford Defense Waste Informational Workshops in May or June? Yes ___ No ✓
Never heard about it

4. Did you have access to a copy of the Draft Environmental Impact Statement or the Summary? Yes ___ No ✓

5. Please rate each of the following:

	Very Good	Good	Fair	Poor
. Hearings moderator		✓		
. Procedures for recording comments	What was it?			
. Physical arrangements		✓		
. Process for requesting to comment	?			
. Five minute comment period	?			

6. Please share any additional comments you may have about these hearings.
THANK YOU FOR LISTENING. I SHARE THE OPINIONS OF ALL OF THE SPEAKERS I'VE HEARD SO FAR — THAT THE WAY TO DEAL W/ NUC WASTE IS TO NOT PRODUCE IT! THAT NUCLEAR ENERGY REMAINS AN UNPROVEN TECHNOLOGY — OR PERHAPS RATHER ONE THAT HAS PROVEN VERY DANGEROUS — AND THAT THE CONTINUED USE OF THIS TYPE OF ENERGY IS THE HEIGHT OF IRRESPONSIBILITY. 2.5.6

7. Any additional comments about the process of submitting written comments on the Draft Environmental Impact Statement?
I SORELY HOPE SOMEONE IS LISTENING!

THANK YOU FOR ATTENDING THIS HEARING AND TAKING THE TIME TO FILL OUT THIS QUESTIONNAIRE. THIS IS A MATTER OF LIFE AND DEATH

086

(continued)
AND SELFISHNESS...
EVEN IF OTHER SAFER, LESS EXPENSIVE ENERGY TYPES DID NOT EXIST... BUT THEY DO!! WHY AREN'T WE USING THEM?!

I THINK NUCLEAR WEAPONS ARE EVEN MORE IRRESPONSIBLE, SELFISH AND INSANE THAN NUCLEAR ENERGY. 2.5.6
AND WE WILL ALL SUFFER FROM THESE POORLY THOUGHT-OUT, SHORT-SIGHTED DECISIONS. WE ARE ONE WORLD. EVERY DECISION WE MAKE AFFECTS EVERY ONE OF US ON THIS PLANET.

WE IN WASHINGTON STATE WILL NOT BE A NUCLEAR WASTE DUMP! 2.1.1
THE PEOPLE WHO HAVE MADE DECISIONS TO PRODUCE NUCLEAR WASTE SHOULD HAVE THOUGHT ABOUT WHAT THEY WERE GOING TO DO W/ THE NUCLEAR WASTE WHEN THEY BEGAN PRODUCING IT. THERE ARE NO ANSWERS. NO ONE WANTS THEIR NUCLEAR WASTES (INCLUDING THEMS) IN THEIRS. IS NO SAFE WAY TO DISPOSE OF IT. CHERNOBYL AND THREE MILE ISLAND HAVE BEEN OUR WARNINGS. WE MUST STOP THIS MADNESS NOW, AND NOT PRODUCE ANY MORE OF THIS LETHAL WASTE. THE PROBLEM IS ALREADY OUT OF HAND. 3.3.5.1

I HAVE ALWAYS HAD A LOT OF FAITH IN OUR DEMOCRATIC GOVERNMENT — BUT IT IS VERY FRIGHTENING TO ME THAT DECISIONS LIKE THESE CAN BE MADE WITHOUT THE SUPPORT OF THE PEOPLE WHOSE LIVES AND CHILDREN'S LIVES WILL BE AFFECTED FOREVER BY THEM.

PLEASE LISTEN! PLEASE STOP PRODUCING NUCLEAR ENERGY AND NUCLEAR WEAPONS. AND AS TO WHAT TO DO WITH THE WASTES WE'VE ALREADY PRODUCED — LET THOSE WHO MADE THE DECISIONS TO PRODUCE THEM PUT THEM IN THEIR HOME TOWNS. WHAT WILL IT TAKE — HOW BIG AN ACCIDENT, HOW MANY DEATHS BEFORE WE STOP THIS SUICIDE? 2.5.6

VERY SINCERELY,
Barbara Anne Mullin

127

9 0 1 1 7 4 2 0 5 3 1

087

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WM DIVISION

HANFORD DEFENSE WASTE TESTIMONY

We the residents of the Pacific Northwest advocate the responsible storage and disposal of nuclear waste already located at the Hanford Nuclear Reservation in Southeastern Washington.

3.3.5.4 *We the undersigned urge the Federal Department of Energy (DOE) not to consider permanent storage of nuclear waste at this time, as we feel that appropriate technology has not yet been fully developed to isolate this material from the environment.*

NAME	SIGNATURE	ADDRESS	PHONE	DATE
Theresa S. Kuehl	Theresa S. Kuehl	1710 Scammel Oly WA	9434171	7-15-86
[illegible]	[illegible]	1900 old Highway 99 Oly Wa	8660604	7/15/86
Missa Thurmalhia	[illegible]	3104 Delphi Rd	866-2175	7-15-86
Blair Walker	Blair Walker	1110 Copperpoint Road NW		7-15-86
Thomas C. Nicholson	[illegible]	[illegible] Ave Oly WA	943-3148	7/15
Brett Redfern	[illegible]	3998 Delphi S.W.	866-7849	7-15-86
Lucy Jackson	Lucy [illegible] Jackson	1114 N Eastside St.	943-2736	7-15-86
Cheryl Cowan	Cheryl Cowan	123½ E. 21st Ave	786-5091	7-15-86
Brian S. Sylvey	Brian S. Sylvey	3138 Overhulse A#470	866-1567	7-15-86
Claire L. Carver	Claire [illegible]	3138 Overhulse #70	866-1567	
Ruth Mandelbaum	Ruth Mandelbaum	812 Overhulse Oly WA	866-8871	7-15-86
David T. Clucas	David T. Clucas	3138 Overhulse Oly Wa	866-1876	7-15
Ernest L. Thomas	Ernest L. Thomas	1816 Madison Oly	866-6000 x6036	
Stephanie Washington	Stephanie D. Washington	Olympia WA	866-6000 ext 6036	
Dave Yates	Dave [illegible] Yates	Oly WA	754-8197	
Cheryl [illegible] Arnold		Oly Wa	866-2254	7/15
Chris Pugh	Chris Pugh	3721 Boylston Seattle wa	324-14[illegible]	
Gail Martin	Gail Martin	3242 [illegible] Rd N.W. Oly 98502	866-3[illegible]	
Tim Ackney	Thomas W Ackney	517 E. 11th Oly wa 98501	754-7926	7/15/86
James Ahearn	[illegible]	2305 Division Oly WA 98502	866 9755	7/15
Julie Williamson	Julie Williamson	3138 Overhulse Oly WA 98502	866-9796	7/15/86
Susan Pittman	Susan Pittman	305 E. X St Tumwater 01	357-5087	7/16
Andrea Gurvich	Andrea Gurvich	M301B T.E.S.C. Oly WA 98505		

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WM DIVISION

HANFORD DEFENSE WASTE TESTIMONY

Submitted by:
Claire Rose
1710 Scammell Ave
Oly. Wa. 98502

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NAME	SIGNATURE	ADDRESS	PHONE	DATE
[illegible]	[illegible]	MODS 311 A		7-15-86
James A. Fellon	[illegible]	2609 28th Ave Oly WA	8661507	7-15-86
Debbie Bresack	[illegible]	1122 Summerwood Ave Oly WA	943-1854	7-15-86
[illegible] Eikeberg	Christie Eikeberg	Mod 324X TESC	866-2795	7-15-86
Mark Sullivan	Mark Sullivan	"		
Fred Nye	Fred Nye	3415 Mud Bay Rd Oly Wa		"
Alonzo Yearna	[illegible]	3114 Langridge Ave NW	357-5662	"
Stoker Howard	[illegible] S. Howard	207 N. Cushing Oly WA		7/15/86
Jerome Rigot	[illegible]	1217 Yew Av NE Oly WA	943 2834	7/15/86
David Singer	[illegible]	1512 E 5th Oly Wa		7/15/86
Jennifer [illegible]	Jennifer Rietzke	3138 Overhulse #168 Oly		7/15/86
[illegible]	Vincent A. Bruno	#135 A.S.H. 3138 Overhulse	866-0773	7/15/86
Polly [illegible]	Polly Trout	30945 [illegible] Pl. S.W. Federal Way	927-4273	
Sarah Meardon		310 E Union #2 Oly 98501		
Lisa Taylor	Lisa Taylor	1335 Overhulse Oly 98502	866-4061	7-15
Daniel Colley		2809 14th NW 98502	754-3758	
[illegible]				
[illegible]		3119 [illegible] 15th [illegible]		
Ayman Tayeh		296	866-6000	
[illegible]		ASH [illegible] 8 Ol.	866-[illegible]	
[illegible]		566 D Dorm Oly		7-15-86
[illegible]		566 D Dorm Oly		7-15-86
Roberta A. Mello		421 N. Sherman Olympia Wa.		7-15-86

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JUL 18 1986 0087 HANFORD DEFENSE WASTE TESTIMONY

WM DIVISION

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NAME	SIGNATURE	ADDRESS	PHONE	DATE
Amy Bohn	Amy L Bohn	124 Percy St Olywa	352-3395	7-15-86
J Dion	J Dion	8523 Harvard, Oly	456-4596	7-15-86
Diane Baker	Diann Baker	5705 51st Ave NW Oly WA	—	7-15-86
Alice Patience	Alice Patience	3539 A 6th Avenue NW Olympia WA 98502	943-1073	7/15/86
Laurie Sorenson	Laurie Sorenson	207 el cuseing Oly WA 98502	786-6937	7/15/86
Richard Graves	Richard Graves	2731 14th St NW Oly WA 98502		7/15/86
[illegible]	[illegible]	1512 [illegible] Eastside Olympia 98506		7/15/86
[illegible]	[illegible]	[illegible] Olympia 98501	352-8991 (204)	7/15/86
Steve Mazepa	Steve Mazepa	16 N. Eastside Oly. 98506	943-2725 (200)	7/15/86
Tracy Gibson	Tracy Gibson	320 W 16th Oly 98502	754-5579	7/15/86
Beverly Stein	Beverly Stein	327 N Sherman Oly 98502		7/15/86
Katie Kemp	Katie F. Kemp	2023 Conger Oly	754-DWIP	7-15-86
Carl R Deskins	Carl R Deskins	3518 SW 7th Olywa	754-5514	7-15-86
Douglas Shanafelt	Douglas Shanafelt	7495 Thornbury	943-9835	7/15/86
ROGER L HENRY	Roger L Henry	TESC 0000 3068	866-8895	7/15/86
[illegible]	[illegible]	Rt 5 4th Ave #3	866-6000 866-6055	7/15/86
TOM CONNOR	Thomas W Connor	3044 Boxer #13	956-3576	7/15/86
Debra Shapiro	Debra Shapiro	PCB 16175 Oly	786-5115	7/15/86
Carol Westfall	Carol Westfall	2305 Division Oly	866-9568	7/15/86
Barbara Anderson	Barbara Anderson	4504 18th Ave SE Lacey	459-9118	7/15/86
Susan Murray	Susan Murray	2639 14th Ave NW	357-9552	7/15/86
Peter Guenther	[illegible]	"	357-9552	7/15/86

129

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WM DIVISION

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NAME	SIGNATURE	ADDRESS	PHONE	DATE
Tom Hall	Thomas P. Hall	2639 14th Ave NW Oly WA	357-9552	7/15/86
LOREN JILL GARBER	Loren Jill Garber	2509 26th AVE NW Oly WA 98502	866-1507	7/15/86
Keith Howard	Keith Howard	2246 N. Fsoto Ct. Olympia 98502	943-3621	7-15-86
Ruth Fickstein	Ruth Fickstein	826 NE 64th Seattle WA 98115		7/15/86

STATEMENT FOR HANFORD HEARING

July 15, 1986

In accordance with our community Statement on Disarmament, and in concern for the health and environment of the Northwest, and the world community,

The Sisters of St. Joseph of Peace urge that:

2.5.6 1. The N-Reactor be shut down immediately;

2. The Plutonium-Uranium Extraction process and all production of weapons grade plutonium cease;

2.2.1 3. There not be a nuclear waste repository at Hanford; and

4. The special isotope facility be eliminated.

2.2.13 Finally, we see it as most important that there be an independent examination of all Hanford operations.

CONTACT:

Josie E. Reichlin CSJP
Director,
Office of Justice and Peace
Sisters of St. Joseph of Peace

The Sisters of St. Joseph of Peace Statement on Disarmament

We, the Congregation of St. Joseph of Peace, an international Community, publicly declare our resistance to the production and deployment of all nuclear and other instruments of mass destruction.

We are committed to encouraging and assisting in the urgent work of educating ourselves and others to the immorality of a continued proliferation of nuclear and other mass destruction arms.

ST. MARY PROVINCIALATE · 1663 KILLARNEY WAY · P.O. BOX 248 · BELLEVUE, WASHINGTON 98009-0248 · 206-454-9380

130

Daniel L. Raphael
4823 1/2 Erskine Way S.W.
Seattle, Washington 98116
United States of America

July 15, 1986

Nuclear waste is not like other toxins. There is nothing comparable, in terms of either toxicity or longevity. Accordingly, it is unacceptable to approach the question of the handling and placement of such materials, on any sort of partisan or self-serving basis. To argue for the positioning of nuclear waste in one area (state, locality, or region) as preferable to another, could only be validly asserted if the criteria for such a decision were explicitly formulated on a basis that did not put the interests of one constituency against another.

Therefore, it must be asked: what basis exists upon which to formulate such an approach? The answer is what we have in common: a world and a life. What place, then, does the world's foremost toxin have in this context?

We are told that technology and experts make the necessary amounts of nuclear waste manageable and safe. We have heard this before, in other places and in other contexts. What is different from other situations and former assurances is what has been cited before: nuclear toxins are not like others, not simply "another poison." Practically speaking, "nuclear pollution is forever." Therefore, no mistakes are acceptable; no contamination is susceptible of being cleaned up; no recall or repair is possible. It is not merely lurid metaphor to say that nuclear radiation attacks the very fabric of life; this is well known, and is universally acknowledged as fact.

We who live in the land of WPPSS know much of experts and their assurances. Obviously, we have a choice about whether to produce waste; that is the only meaningful option open to us. That is the one truly safe course, all other avenues deal merely in degrees of risk. It is a great irony that in the name of "security," we are endangering all life. 2.5.6

Waste must be stored in the only place appropriate — in the void prior to its creation. 3.3.5.2

- Daniel L. Raphael

Mary Voegtlin Anderson
6844 30th Avenue N.E.
Seattle, WA 98115
July 15, 1986

Testimony on Nuclear Defense Waste

The forty year old accumulation of nuclear waste at Hanford presents an immensely difficult problem for which current technology offers no completely effective solution. However, this defense waste is just a small part of the total nuclear waste problem and cannot be considered separately. All radioactive wastes are alike in their dangerous potential, whether their origin is weapon production or power plant generation. 2.3.1.14

The Department of Energy's mistaken idea that we can rid ourselves of any of this deadly waste by burying it in underground vaults is a carefully perpetrated myth. In fact, burying the deadly garbage is really just a form of storage, the only open option at this time. Whether the material is defense waste or power plant waste, it will still be there for the next 10,000 to 240,000 years, possibly exerting its ravaging influence in ways that our most brilliant scientists have not yet imagined. 3.3.1.1

Considering the violent geological history of this planet and the extensive longevity of radioactive material, the plan to bury nuclear wastes in underground repositories is absolutely maniacal. Even the most carefully studied geological site can never provide the required 10,000 years of guaranteed, predictable security against major geological upheaval. 3.3.1.1

The Hanford site is an especially poor choice for an underground repository. Studies of the possible interaction between some very hot waste and the basalt rock formation yield evidence of possible calamitous problems. Future earthquakes could easily shatter rock formations surrounding an underground repository and could open up new channels for groundwater under pressures of as much as 1,000 pounds per square inch. This pressurized water could begin moving through the waste vaults and toward the surface. According to U.S. Geological Association Hydrologist Bill Meyer, even without the precipitating influence of an earthquake the pressurized flow of water in underground aquifers may be pervasive or three dimensional, that is moving toward the surface as well as horizontally. Considering the potential of pressurized water, the Hanford site's proximity to the Columbia River would further exacerbate an already catastrophic situation, possibly creating a widespread nuclear wasteland in the Northwest. 2.1.1 2.1.9

131

090

Because the Nevada and Texas sites present different but equally serious problems, some type of aboveground monitored retrievable storage system seems to be a more viable and safer form of storage than burial in deep underground repositories. Storing the wastes aboveground in specifically designed containment facilities would enable monitoring and control that would be impossible if the waste were removed from human control by deep burial in rock formations. Also, Monitored Retrievable Storage would be less expensive; construction would be easier and would not require sacrifice of human lives as underground construction probably would; it could offer greater safety; and it could be located anywhere, not just in politically convenient places such as Washington state. 3.3.4.2

The most important advantage of this plan, however, is that it offers time to evaluate thoroughly the concept of underground burial or even to develop new solutions. The Department of Energy should then no longer feel compelled to declare Hanford, Nevada, or Texas suitable sites for repositories when these sites have not even been adequately studied. I strongly object to this precipitous action which shows callous disregard for the safety and well-being of Washington state citizens.

Although this monitored retrievable storage system offers a reasonably sane disposal method, the really critical issue remains an ominous threat to our entire planet: the continued proliferation of nuclear weapons and power plants when there is currently no truly effective way to rid our planet of the deadly wastes. The very future of our vulnerable planet depends upon the resolution of this issue. We continue to proliferate the generation of deadly wastes which will affect our planet essentially forever when we are having immense difficulty storing the waste of just the past forty years. What about the next forty years? What about the next century? Does our "Manifest Destiny" include the construction of monitored retrievable storage facilities from "sea to shining sea", a sea possibly shining due to radioactive luminescence? Or are we to convert our entire planet into a gigantic nuclear cemetery, burying our human reason along with the destructive wastes generated by our failure to use that reason? 2.5.6

Currently there are no ultimately satisfying answers to these questions. Until a completely effective means is found to rid our planet of atomic waste, our pursuit of energy from the atom is entirely insane. Even apart from the possibility of literally burying ourselves in nuclear waste or destroying ourselves by nuclear war, it is probably just a matter of time until we experience at least one American "Chernobyl Syndrome" 2.5.6

with perhaps even more decimating effects than the Russian version.

This possibility may be in our future because presently we humans are not controlling the atom; the atom is controlling us. As Albert Einstein expressed it, "The unleashed power of the atom has changed everything save our modes of thinking, and we thus drift toward unparalleled catastrophe."

It is time that we change those "modes of thinking" by facing the reality that radioactive waste is forever. The only sane course of action can be expressed in one simple word: STOP! Stop the proliferation of nuclear weapons, stop the construction of nuclear power plants, stop the N-Reactor, and stop the desecration of this earth!

2.5.6

P. O. Box 441
Mt. Angel, OR 97362
July 13, 1986

Mr. R.A. Holten/EIS
U.S. Department of Energy
Richland Operations Office
P. O. Box 550
Richland, Washington 99352

Dear Mr. Holten:

We know from environmental studies that every element in our global environment is inter-connected and constantly affected by changing events. It is impossible to isolate permanently any substance on this planet. Even carbon atoms are recycled over thousands of millenia from the air through vegetation and animals eventually to the ocean bottom, then under the Earth's crust, and through volcanoes back into the atmosphere.

It is absolutely insane to consider permanent storage of nuclear waste anywhere on this planet -- the only biosphere we have for parsecs around.

The only sensible solution is as follows:

1. for the time being, glassify the waste and seal it in containers for above ground monitoring and retrieval. 3.3.4.2

2. work diligently to implement as soon as possible the National Aerospace Plane Program so that within 20 years we will have reliable, safe, abundant, and cheap access to space.

3. transport the waste to Low Earth Orbit and transfer it to teleoperated interplanetary spacecraft (technically feasible right now) for transport to and storage in a solar orbit between Venus and the Sun. This part of the solar system already has too much ionizing and thermal radiation to be safe for human beings. It's an environmently natural place for nuclear waste. 3.3.5.2

Such an orbital location -- "downhill" from the Earth -- would also be as stable as the planets Venus and Mercury have been for 4 billon years. It can even be safely monitored for thousands of millenia into the future. Any radiation leaks will be swept out of our star system by the solar wind from which the Earth is already protected by our magnetosphere.

Nuclear waste disposal belongs in space -- it's a natural!

Sincerely,
Dorothy Diehl

Dorothy Diehl
(Mrs. Bob Diehl)
503 - 845- 6255

Olympia, Wa.
July 14, 1986

Department of Energy

Dear Sirs:

If these protective barriers you mention are such good solutions to caring for the nuclear waste, then use this method to dispose of the wastes in each state that produces them.

Transporting wastes thousands of miles across the country does seem a very dangerous procedure. What are the safeguards?

3.4.2.2 No more SNEAK attempts to route wastes through the state of Washington, such as the rods from Taiwan. And the Department of Energy was going to send these materials theough the state of Washington without notifying us?

2.1.1 I fear that there will be eventual leakage of radioactive wastes through the basalt rock at the Hanford area. Anything that jeopardizes the purity of the Columbia river is indeed dangerous. Isn't there a type of rock somewhere in the U.S. that is more solid than the basalt of the Columbia river area?

3.3.5.2 I don't believe there are enough options. The ones proposed do seem skimpy.

2.2.1 Yes, it's time for a permanent solution. The forty-three years would have surely been long enough to carefully study the environment and its strengths and weaknesses at Hanford. I don't feel that careful study has been made, and if not, start in now to make in-depth studies and KEEP THE PUBLIC INFORMED.

Respectfully, yours,

Beth Buzzard

(Mrs.) Beth Buzzard
2016 E. State Ave.
Olympia, Wa. 98506

Charlotte Denniston
11815 - 20th S.W.
Seattle, Wa. 98146

July 14, 1986

Rich Holten
U.S. Dept. of Energy
Richland Operations Office
P.O. Box 550
Richland, Wa.

Dear Sirs,

Please don't dump nucular waste at Hanford - 3.3.5.2

Perhaps Nevada if no other answer.

And, please end production of plutonium at 2.5.6

Hanford.

Our state of Washington is still basically a virgin state - let's help it stay that way as long as we can.

Sincerely,

Charlotte Denniston

Charlotte Denniston
Green Peace

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RECEIVED DOE-RL
JUL 18 1986 0094
WM DIVISION

Seattle, Wa July 15

Mr. Holten E.I.S.

I just read in the paper where your dept is asking for different opinions on waste disposal,

3.3.5.2 my opinion or question, as it may be is, why can't the waste be taken to the Arctic, north of the yukon, in the Brooks mountain range I spent 4 years in that area & it would be a usable site to dispose of many things three ft below the surface of the tundra it stays frozen forever, & it is all ready to get to, via the pipeline haul road

Thank you

Art Powell
10007-19th S.W.
Seattle Wa. 98146

July 11, 1986

RECEIVED DOE-RL
JUL 18 1986 0095
WM DIVISION

Rich Holten/EIS
US Department of Energy
Richland Operations Office,
PO Box 550
Richland, WA 99352

Dear Mr. Holten:

This letter is in regards to the Department of Energy's July 15 public hearings in Seattle on the DEIS for disposal of defense wastes at the Hanford Reservation. 2.1.1

I oppose the use of Hanford as a repository for defense wastes, as well as for a high-level commercial nuclear waste storage area.

Past leakages of existing waste at Hanford into the Columbia River prove that the basalt formation at Hanford cannot contain these compounds for an indefinite period of time. Continued or increased use of Hanford for waste storage poses a threat to the integrity of the natural environment. It also poses a grave danger to the local economies of communities downstream from Hanford; nuclear waste has already contaminated fisheries to a certain extent; high-level waste storage and defense wastes would do so to a greater extent. The threat of polluted Columbia River water could also discourage the sport of boardsailing, which has proven a substantial economic boon to the communities of the Columbia River Gorge. 3.2.6.1

I urge the Department of Defense to look elsewhere for waste storage, or better still to investigate alternative means of removing this nuclear threat from future generations.

Sincerely,

Daniel Spatz
17 Sparrow Lane
White Salmon, WA 98672

096

9052 39th Ave. SW
Seattle, WA 98136
July 14, 1986

Rich Holten
EIS, Department of Energy
P. O. Box 550
Richland, WA 99352

Dear Mr. Holton:

We are very much opposed to development of a long-term nuclear waste dump in the Richland, Washington area. The reasons are numerous and too obvious to need restatement. 2.1.1

Yours sincerely,

Mr. and Mrs. Robert H. Ferber

RECEIVED DOE-RL
JUL 18 1986
WM DIVISION
0096

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RECEIVED DOE-RL
JUL 18 1986
WM DIVISION
0097

James Juntun
2422 SE Yamhill
Portland, OR 97214

Dear DOE,

First I would like to thank you for realizing the necessity of giving oregonians a voice in the site selection process. 2.1.1

The most obvious reason for Hanfords unsuitability as the nations repository for defense wastes is the reservations close proximity to the Columbia River. It has not been proven to my satisfaction that BASALT is an acceptable geological formation for a repository. The successive layers of BASALT have cracks between them thru which groundwater can move. Given that the life expectancy of the waste containers is relatively short we are left with the possible scenario in 2.1.1

There is not too distant future that the ground water is flowing thru the BASALT will become contaminated by leaking storage containers. The Hanford Reach Project has done studies which have ascertained that there are indeed underground channels which convey radioactive groundwater from the existing disposal ponds to the Columbia River. This fact is indicative of the overall lack of health safety hazards our communities by the D.O.E. for the last 40 years. What we need is for Hanford to clean-up existing wastes, not to import more radioactivity from throughout the country.

Douglas P. MacLeod

3.5.3.6

136

To: R.A. Holten/EIS
U.S. Dept. of Energy
Richland Operations Office
P.O. Box 550
Richland, WA. 99352

July 9, 1986

To whom it May Concern,

My opinion is regarding Nuclear Waste Disposal at Hanford:

I would like a In-Place Stabilization and Disposal Alternative . . . leave wastes in place and cover sites w/ barriers. Solution until acceptable perm. storage is found. Thank you,

3.3.2.1

local registered voter,
Karin Gurno
KARIN GURNO
6317- 6th NE
Seattle, WA 98115

July 14, 1986

Rich Holten/EIS
U.S. Dept. of Energy
Richland Operations Office
P.O. Box 550
Richland, WA 99352

Mr. Holten;

3.3.5.1 The question of the urgency of nuclear waste disposal has bothered me for at least four years. Nuclear waste, in my opinion, cannot be safely stored on this planet, and frankly, it has no business on, in, or AROUND Earth.

Since present proposals call for budgets of 2 million to 11 million dollars then I suggest this money be spent on permanent removal rather than on temporary band-aid tactics, which, in reality, only amount to monuments to our foolishness. All containers eventually leak and ever more costly measures will be required to ascertain contingencies relative to leakage containment. The media would have me believe that my choices narrow to one point: Where shall my great-grandchildren expect imminent contamination to come from? We owe them more.

I have not met anyone, of the dozens of people I've spoken with, including my father (who is a retired Boeing engineer with 35 years of experience) who dislikes or disapproves of my idea. If you find serious flaws in it, please let me know.

My suggestion is to remove the waste in Space Shuttle stop-offs at a geosynchronous satellite whose only purpose is to contain this waste

3.3.5.2 until, when loaded into a shuttle it's own, it is blasted off into the Sun. The Sun's gravitational pull would take over in a few years and minimal control is all that would be necessary. Shuttles take off for lighter reasons that this. Robot systems could run the satellite. They can put cars together; they could do this job. Very little danger to humans on the Space Shuttle flights since exposure is limited, if any would need to exist. And, we would be rid of it forever.

Thank you for allowing me this opportunity to help, if possible.

T.D. Williams
900 North 6th
Renton, WA 98055

137

Kenneth R. Hopkins
3001 Monte Vista
Olympia, Washington 98501

7/15/86

Dear Mr. Holten:

I wish to emphasize to you and to the U.S. Dept. of Energy that I feel 2.1.1
strongly that Hanford, Washington should
not be used as a dumping site for
nuclear wastes.

I cannot belive you seriously intend
to destroy the Northwest for all time
by "disposing" of nuclear wastes in our 3.3.5.1
state. You don't dispose of nuclear
waste.

Sincerely yours,

Kenneth R. Hopkins

July 15, 1986

USDOE, Richland Operations Office
Attn. Rich Holten
P.O.Box 550
Richland, WA 99352

Dear Mr. Holten:

The following are my comments on the Draft EIS- Disposal of Hanford Defense High-Level, Transuranic and Tank Wastes (DOE EIS-0113):

Comments-- Hanford Defense Waste Draft EIS.

The Draft EIS is well written and easy to read. The alternatives presented cover all possible options. My comments are based on the following facts and observations:

2.3.2.12 1. The existance of the Defense Waste on the Hanford Reservation, under current conditions, presents no hazard to the public.

2. Assuming that no new waste is generated (all operations are shut down); that the site is monitored; and that the public is excluded, as at present, there is no hazard to the public.

2.5.1 3. There is no rational incentive to recover the Real Estate values of the Hanford Site. Hanford will always be a controlled area.

3.5.5.28 4. The largest quantity of radioactivity, as indicated in Table 2- Page 1.11, is the Sr-90 and the Cs-129. With their approx. 30 year half-life, time is in our favor. The waste produced in ending WW-II has already passed through one half-life! (Note that the table is somewhat misleading in that the plutonium and americium decay through long chains. The radioactivity of the daughters must be considered in
3.1.2.7 estimating the Hazard Index of the parent plutonium and americium.)

5. The plutonium and americium are located in relatively small areas; the chemistry is such that they do not tend to migrate from their fixed positions in the vadose zone.

2.5.7 6. Removing 98% of the radioactive materials from the Hanford Site will result in minor improvement in public Hazard. Hanford will remain a controlled area, and we now have a second controlled contaminated site.

2.5.1 7. There is no reasonable, logical scenario for assuming loss of institutional control in the year 2150 or at any other time.

M. J. Szulinski

101

Under these cosiderations the following conclusions regarding the the proposed alternatives can be made:

1. Geologic Disposal— Nothing is gained. There is a net loss of resources and in safety. This alternative should be dropped. Also see the Reference Alternative No. 3. 3.3.1.1

2. In-Place Stabilization and Disposal-- Adequate; Accompishes most good. 3.3.2.1

3. Reference (Combination Disposal)-- Effort is cosmetic. Double shell stored waste and drummed TRU waste are adequately stored. It would accomplish greater "hazard reduction" if the single shelled tanks were emptied and the buried TRU were retrieved and stabilized. It makes no sense to stabilize the material in the double walled tanks and the drummed TRU waste if the single walled tanks and the buried TRU wastes are judged adequately stored. A second site becomes contaminated and Hanford remains a controlled site. This alternative should be dropped and the WIPP program, as a TRU only storage facility, should be terminated. 3.3.3.1

4. No Disposal Action-- This case ties alternative No. 2 as the best course of action, particularly if loss of instutional control in the year 2150 is not a consideration. It has the further advantage of avoiding action based on current pressures that might not be totally objective. 3.3.4.1

One further minor note: Defining Non-TRU waste as containing no plutonium if it contains less than 100 nanocuries of plutonium, is reminisent of the Lysenco/Stalin decree that environmentally acquired traits can be passed on genetically. It would be more meaningful, and honest, to declare that waste containing less than 100 nanocuries of plutonium per gram can be treated as if it contained no plutonium. This criterion should be justified in the EIS. 3.1.3.2 2.4.1.8

Respectfully Submitted

M. J. Szulinski
1305 Hains
Richland, WA 99352

(509) 946-8670

M. J. Szulinski

138

July 15, 1986

Dear Mr. Holten —

This letter is to inform you that I am very strongly against the storage of nuclear waste at Hanford. In my
2.1.1 opinion — all of the Department of Energy's proposals are inadequate — none are as safe or as secure as they need to be to insure public safety.

3.3.5.1 I realize you are in an awkward position — but I ask that you listen to public sentiment. The public does not want additional nuclear waste stored at Hanford.

Sincerely,
Connie Lopez

139

James P. Thomas
E. 414 Augusta Avenue
Spokane, WA. 99207

Comments on the Draft Environmental Impact Statement for the Disposal of Hanford Defense High-Level, Transuranic and Tank Wastes

July 17, 1986

I am a member of the Northwest Citizens Forum on Defense Wastes and a member of the Steering Committee of the Hanford Education Action League. These groups will be presenting their own testimony and the following are my personal comments on the Draft Environmental Impact Statement.

1. To begin with, I commend the Department for investing their time and energy over the past six months to inform and educate the people of the Northwest on the complex situation of Hanford defense wastes. Unfortunately, the Department has failed to include all of the Hanford wastes and has only presented part of the problem. I recommend that the Department of Energy consider all of the defense wastes at Hanford in one complete Environmental Impact Statement. This should include the wastes in the 100 and 300 areas such as the eight old production reactors. To not do this is asking people to solve a jigsaw puzzle with many of the pieces missing. 2.3.1.14

2. Whereas much concern has been raised about the radioactive nuclear wastes, there is insufficient attention to the problem of toxic chemical wastes. The Department of Energy has yet to complete a comprehensive inventory of the chemical wastes. The Department has not adequately addressed the disposal of those wastes, nor has it presented anything on how the chemicals interact with the nuclear wastes. In fact, this draft Environmental Impact Statement neglects to consider a June 1985 Battelle study of the interactions between Hanford's chemical and nuclear wastes. This report explored the possibilities of explosions in existing waste tanks (PNL-5453, Complexant Stability Investigation, Task 2 - Organic Complexants, E.C. Martin). 3.1.6.1 3.1.4.32

3. After reading the draft EIS it becomes clear that most of the proposed disposal methods have yet to be proven. Although the Department has received support for glassifying the liquid wastes in the double-shell tanks, I am not yet convinced that this technology is suitable for deep geologic disposal. Another uncertainty is the grouting of some of the wastes. According to Donald Provost of Washington State, grouting contains hazardous chemicals and therefore falls 3.3.5.4

103

under provisions of the Resource Conservation and Recovery Act (RCRA). The draft EIS does not explain how or when it will meet the RCRA requirements. Other methods are still in the conceptual design stage or merely ideas on paper. The Department of Energy does not know how to safely dispose of the current wastes. Therefore the Department should halt the production of plutonium until the current stockpile of wastes is disposed of in an acceptable manner. Arguments that such a plutonium production halt would harm national security are erroneous. The United States possesses more than is necessary to meet any reasonable need for national security. Moreover, even though this draft Environmental Impact Statement speaks of future defense wastes, it offers no justification for future plutonium production. The citizens of the Northwest must be told why they should continue to live with the risks of Hanford operations.

2.5.6

4. With regards to the three disposal options presented in the draft EIS, I would favor the Department directing its research to the geologic disposal option. I am aware that this could mean increased radiation exposure to Hanford workers and that it is the most expensive alternative. However I believe that this current generation is morally obligated to accept all the risks and costs associated with these wastes. The majority of the American people have supported the government's nuclear weapons buildup by their votes and taxes. It has been this nuclear weapons buildup that has produced these wastes. Many in the United States, though I am not one, agree that the risks of these wastes are acceptable because of the so-called benefit of national security, supposedly won by America's nuclear arsenal. The present obligation is to cleanup the wastes that have been produced. With any wastes left in Hanford soils, future generations will only reap the risks without enjoying any of the benefits.

3.3.1.1

If this is truly one nation under God, then we should start fulfilling our call to be responsible stewards, benefitting our dignity as co-creators. This beautiful earth is sacred, all of us will be judged on how well we take care of it.

*****

5. Given the lack of information concerning many aspects of Hanford's wastes, some of which the Department readily acknowledges, the DOE must commit itself, at minimum, to a supplemental EIS. I would suggest that a period of five years would be enough for the Department to provide the public with sufficient information. Citizens need this information to responsibly participate in the decision-making process.

2.3.2.3

6. There is considerable uncertainty about the DOE having sufficient financial resources to insure the adequate disposal of all defense wastes. The people of the Northwest will have to generate the necessary political support for the cleanup of the existing wastes. However, the cleanup of future wastes (assuming continued plutonium production) should be funded on a pay-as-you-go basis. Similar to provisions contained in the Nuclear Waste Policy Act of 1982 (for the disposal of commercial nuclear wastes), the price of special nuclear materials should include a surcharge sufficient to guarantee the safe disposal of subsequent wastes.

2.2.9

2.2.10

7. There continues to be confusion as to what wastes are high-level and which are not. Within the present management system of defense wastes, it is too easy to bypass certain disposal requirements by simply reclassifying the wastes. What was once high-level waste is now considered low-level and can be disposed of in a less stringent fashion. This is of special concern with the DOE because this agency is still too far removed from public scrutiny. To correct this situation, I propose the following two recommendations. First, the Department should provide specific definitions for the various waste classifications and include them in the final EIS. Second, there needs to be independent oversight and licensing of the Department's disposal practices. The Nuclear Regulatory Commission, the Environmental Protection Agency and the affected states of Oregon, Idaho and Washington could serve this function.

3.1.1.9

2.2.13

8. The EIS states that 190 kg. of plutonium in the soil will be cleaned up (page A.17). However, according to Hanford documents, this will mean that over 100 kg. will remain on the Hanford site (BNWL-1779 UC-70, 1972 Waste Disposal Summary, page 4 and BNWL-1701, 1971 Waste Disposal Summary, page 12). Leaving more than 100 kg. in Hanford soils is unacceptable; 10 kg. might be acceptable.

3.1.5.5

3.1.3.4

9. I have numerous questions regarding the transportation of TRU wastes to Hanford from offsite. In the October 1983 Defense Waste and Byproducts Management Monthly Report (RHO-PB-SR-10 BWM), it states on page 30 that "offsite waste was received from Canoga Park, Lawrence Berkeley, Kerr-McGee and Westinghouse....A total of 233 drums of TRU waste has been received from Kerr-McGee since 9/01/83." Now if Hanford received 233 drums in just two months from one company, what is the total scope of the situation? How and where are these wastes addressed in the DEIS? What are the contract arrangements and with which companies? Who pays for the disposal? How much has been transported to Hanford already and how much will be transported to the WIP Project in New Mexico?

3.4.2.7

140

104

3446 12th Avenue West
Seattle, Washington 98119
July 17, 1986

R.A. Holten
US. Department of Energy
Richland Operations
P.O. Box 550
Richland, Washington 99352

Dear Mr. Holten

141

Enclosed is an article written by an American doctor who went to Moscow after the Chernobyl reactor blew up. Please
3.4.3.8 read this article.

I am concerned that something might go wrong with the N-reactor at Hanford. I object to the way
2.1.1 you have been storing waste at Hanford. I object to Hanford as a site for the nation's nuclear waste. It is NOT a safe site. The DOE put it in the top three for
2.5.6 non-scientific reasons. I object to nuclear weapons.

People of Washington and of other states do not trust the DOE because (1) the DOE has lied to them and (2) the DOE is not concerned about the health of people or the environment. 2.5.5

Maybe what I've heard is true: that the DOE is an inaccurate title — that the Department of Energy should be called the Department of War

Consider the possibility that what your superiors tell you is incorrect. Consider the possibility that the citizens of Washington have a more accurate picture of what is going on. Consider the possibilities that (1) nuclear weapons jeopardize our health and safety rather than protecting us; (2) the energy produced by nuclear plants is no tradeoff for the nuclear waste produced, because we don't know how to handle the waste. 2.5.6
our lives and the life of the earth
are on the line. Consider that.

Sincerely,
Laine McLaughlin

section C
Wednesday, July 16, 1986
The Seattle Times

Scene

Mercy mission to Moscow

American doctor sees effects of nuclear disaster firsthand as he gives aid to Chernobyl victims

Gerry Bennett
14416 SE 37th
Bellevue, WA
98006
206-643-0481

July 14, 1986

Dear R.A. Holten,

I am thoroughly convinced that Nuclear waste disposal is a very, very expensive task and that current producers of Nuclear waste are not (and economically cannot!) shoulder this cost. These externalities will be passed on to another generation when the current producers can't be held accountable.

But since nuclear waste is a reality, I feel we should at least do a very good job of containing it. I would advocate a

3.3.4.2 buried and stabalized approach, in a manner that will allow future retrieval for further processing. And I want it done OUTSIDE of WASHINGTON STATE !!!

Gerry Bennett

16705 Maplewild Ave. S.W.
Seattle, Wash. 98166

July 19, 1986

Rich Holten
U.S. Department of Energy
Richland Operations office
P.O. Box 550
Richland, Wash. 99352

REGARDING: Draft environmental impact statement on radioactive defense waste

Mr. Holten:

The U.S. Department of Energy must bury its 53 million gallons of radioactive defense waste in a deep geologic depository.

That's probably the most expensive option. But it's a long-term solution to a decidedly long-term problem -- that radioactive gunk will "glow" for an additional 10,000 years. 3.3.1.1

Some DOE suggestions to bury Hanford's existing storage tanks with rock and dirt sounds akin to fixing a patch of dry rot in your wood floor by buying a new rug. I question the ability of those tanks to hold their cargo for the next 100 centuries. 3.3.2.1

I guess I'm not alone. The URS Corp., in a recent report to the state, concludes that current technological know-how does not support the proposal to bury Hanford's storage tanks. 3.3.5.4

Frankly, I find the private engineering firm of URS more credible than your agency.

Your department's penchant for secrecy ranges from destroying draft documents on dumpsite selection to harassing a group of Mason County Boy Scouts who canoed down the Columbia River two years ago. 2.5.5

Using a legal loophole to bar the public from a panel's review of the N Reactor added to the theme that your department prefers secrecy to avoid accountability.

Hanford's history of radiation leaks into Washington's air and water confirms my belief that the nuclear reservation is not a good neighbor now. Especially because those leaks were also kept secret for about 30 years.

Too bad the state can't evict the Department of Energy. Right now, I'd love to swap your 570-square-mile Hanford reservation for a jackrabbit refuge.

Sincerely,

George Kerb

cc: U.S. Sen. Dan Evans
U.S. Rep. Rod Chandler

107

Testimony of Joan Mootry, Rt. 1, Box 554, Spokane, WA 99204

Presented to the U.S. Department of Energy
Spokane hearing on Hanford Defense Waste Environmental Impact Statement
July 17, 1986

I am an active participant in and an advocate for the democratic process. 2.5.5
One of the most blatant examples of abuse of the democratic process that I've encountered has been the Department of Energy's attempt to appear committed to deal honestly with its massive amounts of nuclear garbage, while following its own agenda to make more and dump it into the soil, air and water as usual.

For example, by 1982 DOE's practice of dumping defense waste directly 2.2.10
into the soil had caused 12 million cubic meters of Hanford's soil to become so contaminated with plutonium that DOE's own guidelines required the soil to be transferred to DOE's underground waste facility in New Mexico. But the site cannot hold that much waste, and the cost of excavation and shipment 2.4.1.8
would have been enormous. So DOE solved the problem by raising, by 10 times, its own guidelines for plutonium concentration in soil. With the stroke of a pen, plutonium-contaminated waste became low-level waste, and plutonium continues to amass in Hanford's soil.

144

Here is another example of how DOE, on paper, solves its technical and budgetary dilemmas: The Nuclear Waste Policy Act requires that Hanford's 2.4.1.4
29 million gallons of high-level waste in tanks, plus its 500,000 gallons already leaking into the environment, be solidified and buried in a high-level waste repository licensed by NRC. So DOE simply issued DOE Order 5820.2 which makes a distinction between wastes produced before the Act and those produced after, making earlier wastes not subject to the Act.

For those here today who might feel beholden to DOE for presenting an environmental impact statement on Hanford's defense waste, I want to make one thing very clear. The EIS was not drafted because of DOE's concern for the environment or the safety of citizens. It was drafted because citizens have ended Hanford's 42-year history of obscurity; public pressure forced this EIS.

And true to form, DOE has once again turned the spirit of the EIS into a costly exercise in futility. The time allotted for citizens to study the 2.3.2.7
document and to testify about it appears to have been purposefully inadequate, once again revealing how DOE continues to view citizens' opinions with contempt.

I wish to remind the Energy Department that it is working for us. It's stone-age practice of dumping radioactive and chemical waste directly into the ground is unacceptable to us. If it continues such practices in spite of us, then something is very wrong with the way democracy is functioning in America. 2.2.10

American citizens are paying the wages for each and every member of this bureaucracy. We are even paying over $5 million this year alone for Hanford's "public relations" so that highly-paid spokespersons for the department and its contractors can tell us what a fine job they're doing. We don't believe them. 2.5.5

Like inexperienced farmhands gone berserk, DOE and its contractors have occupied our land, used our monetary and physical resources to feed their insatiable sacred cows, and paid us back by letting the creatures defecate their dangerous poisons into the very agricultural heartland of our region. And they continue to do so!

Common logic demands that the front-end of this nuclear misadventure be addressed before the back-end can be dealt with appropriately. As long as plutonium production continues at Hanford, DOE's current, limp attempt to address the problems of defense waste will be viewed correctly as the farce that it is. 2.5.6

Existing defense waste must be cleaned up, of course. And DOE has heard hundreds of Northwest citizens testify that safety, not economics, should be the main priority. People are willing to pay for the most reliable and safe procedures available. But, compared to other DOE facilities, federal appropriations for Hanford's cleanup are exceedingly low, revealing that the department's priority at Hanford is expediency, not safety. How then, can we believe that this hearing is anything but a mockery? 2.2.1

Clear in the minds of Northwest citizens is the memory of months spent studying incomplete and inaccurate data on the repository. The public's studied opinion that Hanford is not geologically or hydrologically suitable was mirrored by reputable independent scientists throughout the country. But, regardless of the scientific data, DOE pursued its own political agenda, and lame excuses were made. 2.1.1

Speaking of excuses, citizens nationwide are fed up with DOE's ploy of pointing to "national security" and "Congressional mandates" in order to duck-and-cover when held to accountability.

0107

2.1.8

2.5.5

DOE has violated the Nuclear Waste Policy Act by eliminating second-round repository sites. It has purposefully destroyed (if they even existed) documents related to its selection of Hanford. It originally claimed that "national security" prevented it from telling about Hanford's massive amounts of radioactive iodine released upon unsuspecting American citizens. And, amidst probing questions and critical testimony, it has recently twice walked out on the Congress of the United States of America. Its bureaucratic bungling and scornful disregard for citizen and Congressional authority are legion. Yet, when pressed, individuals within DOE lament that "Congress made us do it."

I submit that the U.S. Department of Energy has deceived Congress, just as it has the people of the Northwest. Once again, I wish to firmly remind DOE officials that this is a democracy, and that we-the-people are your employer,

2.5.6

boss and highest authority. We are telling you that continued plutonium production at Hanford is unnecessary for national defense, is incompatible with cleanup of Hanford and is causing unnaceptable risk to American citizens.

Hanford jobs need not be eliminated, but companies and workers should be paid to clean up the mess instead of making more. This will keep them occupied for decades, if not centuries, with restorative work of which they, themselves, and citizens everywhere can be proud.

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145

SPOKANE, WASHINGTON
JULY 15, 1986

UNITED STATES DEPARTMENT OF ENERGY
SPOKANE PUBLIC HEARING

DEAR SIRS,

I am a long-time resident of this area having just recently returned from working out of state and now residing in Spokane, Washington.

Thank you for this opportunity to speak to the issue of disposal of radioactive wastes from the Hanford nuclear site.

I believe that the best solution to the current situation is for the United States to collectively contain insofar as is possible all nuclear wastes from around the country and to store them in the most stable geological formations that can be found, most probably underground salt formations. I strongly oppose on-site disposal by any means as this would surely perpetuate the poisening of the land and water which has already begun. We must retract and contain as much of this terribly deadly material as is possible and begin to reduce and finally eliminate the sources from which it comes.

2.1.1

2.5.6

#4 Roger K. Burchell

We have a responsibility to our families and to our nation; a responsibility to future generations and really to all life on this planet. The whole world is watching; now and in times to come. Will we act intelligently and responsibly or will we will we act in fear and in greed?

As a citizen of the country which I love most deeply, I call on you to please awaken to this great task and to begin the work which must begin now in order to secure a safe and peaceful world for all mankind.

2.2.1

#3 Rosemary E. Braun

Respectfully yours,

#1 Kenneth W. Burchell

Kenneth W. Burchell

#2 Michael R. Campbell

Michael R. Campbell

109

109

SPOKANE

HANFORD DEFENSE WASTE ENVIRONMENTAL IMPACT STATEMENT
PUBLIC HEARING

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AUDIENCE QUESTIONNAIRE

1. How did you learn of the hearings?
   Newspaper X Radio ___ TV ___ Mail ___ At work ___
   Word of mouth ___ Other (please specify) ___

2. Did you attend one of the Hanford Defense Waste Open Houses in February or March? Yes ___ No X

3. Did you attend one of the Hanford Defense Waste Informational Workshops in May or June? Yes ___ No X

4. Did you have access to a copy of the Draft Environmental Impact Statement or the Summary? Yes ___ No X

5. Please rate each of the following:

	Very Good	Good	Fair	Poor
. Hearings moderator		OK		
. Procedures for recording comments		OK		
. Physical arrangements		OK		
. Process for requesting to comment		OK		
. Five minute comment period		OK		

6. Please share any additional comments you may have about these hearings.
   [illegible] leaves me to feel the DOE is closing ears & eyes to information they no doubt already had but didn't consider seriously.
2.5.5

7. Any additional comments about the process of submitting written comments on the Draft Environmental Impact Statement?

THANK YOU FOR ATTENDING THIS HEARING AND TAKING THE TIME TO FILL OUT THIS QUESTIONNAIRE.

146

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What really concerns me is:

The close proximity Hanford is to the Columbia River - the mightiest River in the West. The one southern states at one time wanted to have water pumped from to them. 2.1.1

The type of ground at Hanford & basalt is too uncertain. Already contamination to Columbia has been measured. It doesn't sound reasonable that this spot rated the lowest at first because environment should now be number one. (convenience? cost less? less political pressure?) 2.2.14

Evabelle Myers
P.O. Box 583
Greenacres, WA 99016

Promising Us Science, Giving Us Politics*

William Harper Houff, Ph.D.

In an editorial published at the time you, the United States Department of Energy, issued your Draft Environmental Impact Statement on the disposal of Hanford's defense waste, the Tri City Herald compared your task to the one Hercules had in cleansing the Augean stables. In fact, the Herald concluded that your labor is greater.

I would agree. But I would also take the comparison further. For, although Hercules was a memorable hero, he was not a very responsible one!

According to the famous Greek myth, the stables of Augeas, King of Elis, had been collecting filth for thirty years. You have been doing likewise for over forty. And Hercules did his job in a single day by diverting the River Alpheus through the place and washing the waste downriver. Your task will take much longer; and we are desperately concerned that you not do something similar with the Columbia!

2.2.1 We do not oppose the disposal of Hanford's defense waste; we favor it. We only wish you had had greater foresight and responsibility when you began...and continued the contamination. We are concerned that, even as you wrestle with the awesome problems of disposal, you are adding more waste to the mess. And we are desperately concerned that, in your efforts at cleanup, you not make a bad problem worse!

Much of what you do at Hanford is sanctified by the word "science." Although increasingly distrusted, your science still has great power. And that is sobering, for science deserves better than you have done with it.

2.2.14 The problem is: you start off doing science and end up corrupting it with politics! There is no better example of that than the choice of Hanford as one of the finalists for a civilian high-level nuclear waste repository.

All along in your repository selection, you emphasized that Hanford would be chosen ONLY if it were proven safe by scientific study. But even though Hanford ranked fifth in
2.2.14 nearly every technical aspect, when the finalist choices were made, Hanford suddenly jumped to third. Why? Because you "wanted" to characterize a basalt site....

* * * * * * * * * * *

*Testimony presented at the USDOE hearing on its dratt Environmental Impact Statement on "Disposal of Hanford Defense High-Level, Transuranic And Tank Wastes," SpoKane City Hall, July 17, 1986.

147

110

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When I became a scientist, one of the cardinal rules I learned was that the facts reported not be colored by what I "wanted!"

I stress all of this because it sullies your reputation in general and compromises your DEIS in particular. The job that needs doing will take all the power and trustworthiness that science at its best can offer. But because of your past performances, the possibilities that the work will be an expensive and tragic boondoggle are almost all one can see. How can we trust you to do what you say you will do? 2.5.5

These concerns noted, let me now make a few comments about your DEIS....

First and always, I am disturbed by the enormous number of assumptions that go on to become the basis of critical calculations. You know as well as I that errors tend to multiply with every step, and almost all of your prognostications involve multiple steps. 4.1.20

Time after time, you admit that the procedures contemplated and the machinery required have not been tested or even designed. One of the more intriguing terms in your document is "preconceptual." 4.1.8

I searched your glossary, and the word "preconceptual" is not defined. Neither is it found in the dictionary. About the closest the dictionary comes is "preconception," which is defined as "prejudice." An analysis of the word's constituent parts suggests that when you say "preconceptual," what you mean is that you haven't thought about something. That troubles me.... 4.1.8

There are many technical details in your DEIS that worry me. I regret that you have allowed only five minutes for verbal testimony at this hearing -- but half of what was permitted at the civilian repository Environmental Assessment hearing. Somehow, we are more comforted when our concerns are spoken out here in public than when they risk ending up in a file box somewhere, perhaps never again to see the light of day. 2.3.2.12

Because this is how you have structured these hearings, I am attaching an appendix to the written copy of this testimony. I hope it will be read and taken seriously....

One of my greatest worries about your defense waste cleanup is accountability. How do we know that human health and safety will have the top priority? How do we know that established quality control standards will be followed in this critical and complex task? How do we know that, once begun, the job will be completed as planned? How do we know that the billions of dollars needed for this project will be properly spent? 2.2.1

110

Anyone moderately familiar with waste and graft on large federally-funded projects is bound to wonder about both the quality of the work done and the way the money is handled. Without some sort of independent oversight, the defense waste cleanup is practically an open invitation to cheat. I would hope that, in your final EIS, you will reassure us on all of this by providing a mechanism for public accountability. — 2.2.13

My final concern is this.... I urge you to adopt the safest and most permanent alternative in your DEIS -- geologic disposal. And I would add to that recommendation an equally fervent recommendation that the deep repository chosen not be on the very banks of the Columbia River. Such a choice not only violates the scientific facts but common sense and moral principle as well. — 3.3.1.1

Something else.... You know as well as I do that, if the deep geologic alternative is to work, you must immediately reverse your crassly political decision to suspend the search for a second-round repository site in the East. Otherwise, you will not have room for both the civilian waste and the defense waste. — 2.2.14

I end with the same concern with which I began. Thoughout your forty-year legacy, you have promised us science and safety and given us politics and pollution. In the process, human health and trust, economic and social priorities, democratic and scientific process have all been sacrificed. — 2.5.5

I hope to God that you will do better than that with your defense waste!

Appendix

Beyond the primary value that human health and safety, present and future, should take priority over economics or politics, there is one other general principle that should be uppermost in your thinking as you go about the defense waste cleanup. This is that whatever you do should not end up making a bad situation worse. Even under the best of conditions and intentions, there is reason to fear that you will spend billions of dollars converting your waste into forms where it will be even more difficult to process further, should that become necessary. — 3.3.4.1

For example, in one of your alternatives you propose leaving the salt sludge in the bottoms of the 149 single-walled tanks in place and filling the tanks with gravel. What happens if you later need to get at that sludge because it is continuing to be an environmental hazard (as some of it has already done by leaking)? — 3.1.4.25

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And, does not the gravel strategy create 149 high-level nuclear waste repositories, all of which should be legally licensed by the Nuclear Regulatory Commission as required under the Nuclear Waste Policy Act of 1982? — 2.4.1.7

Something else that bothers me is how you have omitted some 300 radiologically-contaminated sites at Hanford from your cleanup plans. In 1984, with a stroke of the pen, you transformed many millions of cubic meters of transuranic waste to a low-level category. Whereas the lower limit for TRU waste used to be 10 nanocuries per gram, USDOE order 5820.2 summarily raised the limit to 100 nanocuries per gram. Unfortunately, the hazard involved did not change at all! — 2.4.1.8

It worries me, too, that in your discussions of processes like vitrification and grouting, no formulations with test results are listed. You do refer generally to the fact that the success of both processes depends upon compensating for the particular waste composition involved. As a chemist, I know that the physical properties of both glass and concrete are compromised by any impurities present. And, when you say vitrification and grouting, you are talking about turning out tons and tons of impure glass and concrete. — 3.1.8.1 — 3.1.8.13

I worry about leaching from improperly-formulated grout. The Savannah River Plant's EIS admits that studies on the leachability of grout are in a "preliminary stage"-- hardly a proven process. — 3.1.8.1

In the absence of test results, I worry also about atmospheric emissions from your vitrification process. While sometimes cited as an encouraging example, the French vitrification plant on the Britany Peninsula has a bad reputation on radioactive emissions. — 3.1.8.10

Several other concerns.... You have written your DEIS risk assessments in terms of what you can reasonably anticipate. Yet, most serious nuclear accidents have involved the unexpected. Because it is improbable, you often minimize the potentially catastrophic. — 3.4.3.8

For example, in section H.4.5. on handling "Pre-1970 TRU Solid Waste," there is the mention of a possible accident from "criticality due to changes in fissile geometry during subsidence operations." That sounds like a full-scale nuclear disaster to me -- something comparable to what happened at Kyshtym in 1957 and nearly happened at Hanford in 1973. — 3.4.3.8

Also, your discussion of Socioeconomic Impacts (Appendix K) is very mechanical and completely ignores a crucial matter -- citizen perception and morale. This is the most important imponderable of all -- one that is still only — 3.2.6.3

148

whispered about. Most people do not want to live, work and raise families near nuclear facilities. And, whether you know it or not, what you do at Hanford has become a social and economic blight in Eastern Washington. Already, there 3.2.6.3 is evidence that new businesses are reluctant to locate here. And, should your activities and reputation compromise the marketability of Washington's agricultural products, an economic catastrophy of unparalleled scope will be the result.

Another important matter.... Several times in your preambles to sections, you mention following the most conservative lines of reasoning and reckoning. Yet, your descriptions repeatedly manifest a facile optimism.

Several times you assure us, "While there is no intention of the federal government to ever leave the site...." Come on 2.5.1 now! No government, much less civilization, has ever lasted the time your wastes will remain dangerous. In fact, your DEIS assumes loss of institutional control by the year 2150 -- a tiny fraction of the time much of the waste will be hazardous.

What you are planning must outlast climate changes, ice 2.5.1 ages, geological upheavals, and, if we are so lucky, human populations whose understandings, languages, values and purposes will be very different from our own.

For this latter reason alone, it is crucial that you adopt the most permanent and inaccessible alternative -- the 3.3.1.1 geologic disposal. And I would add to that recommendation an equally fervent recommendation that the deep repository chosen not be within a stone's throw of the Columbia River.

Finally, midst all of the doubt and controversy over how your defense waste should be handled, there is one matter that seems clear and unambiguous. Especially until you are 2.5.6 much more convincing in your ability to dispose of the defense waste already on hand, the processes that generate that waste should be brought to a halt!

149

7:00 PM Session 0111

United States Senator Slade Gorton

Testimony for the U.S. Department of Energy Public Hearing

on the Defense Waste Environmental Impact Statement

July 17, 1986

I regret that I am unable to be here personally to comment on the Draft Environmental Impact Statement on the Disposal of Hanford Defense Wastes. I have asked Dick Ellis, my Eastern Washington Director, to present this testimony on my behalf.

Cleaning up 40 years worth of defense waste at Hanford is one of the most important tasks facing the Department of Energy. Making sure that the Department carries out this responsibility safely, effectively, and expeditiously is one of the most important tasks facing the State of Washington. I am pleased at the interest and involvement of Washington residents in this important issue.

The overriding criteria for the disposal of Hanford's defense waste must be the protection of public health and our environment. Recent actions taken by the Department of Energy, 2.2.1 however, lead me to question the Department's committment to

111

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giving priority consideration to the protection of public health and our environment. On May 28th John Herrington, Secretary of Energy, announced that, if DOE has its way, further consideration of secondary repository sites in the central and eastern United States will be indefinitely postponed.

2.1.8
2.2.14

The Department's unilateral decision to suspend the second repository siting program violates both the intent and letter of the law. As a member of the Senate Environment and Public Works Committee during the 97th Congress, I was deeply involved in developing the Nuclear Waste Policy Act of 1982. I was responsible for including in the Act provisions that require the siting of a second repository and place a cap on the amount of waste disposed of in the first repository. My intention was to ensure that the first repository site would not later become the only repository in the nation.

150

The Department of Energy has neither the responsibility nor the authority to decide whether or not to proceed with the selection of a second repository. As one of the Senators involved in drafting the Act, I can attest to the fact that the

2.4.1.1

elements of the Act are inseparable. The siting of a second repository is a key element that can not be removed without jeopardizing the entire Act. The Department of Energy must be required to strictly comply with the law.

It is particularly disturbing that the decision to indefinitely postpone work on a second repository was based partially on the Department of Energy assumption that defense waste in single-shell tanks at Hanford would not be placed in a repository. This implies that the Department of Energy has already decided not to choose the option of disposing of Hanford's existing defense waste in a repository. Under existing law, no more than 70,000 metric tons of high level waste can be disposed of in the first repository. If Hanford's existing defense waste was added to commercial waste and other defense waste the combined total would exceed 80,000 metric tons. The Department's apparent opposition to building a second repository gives the impresion that the Department intends to leave Hanford's defense waste where it is.

3.3.5.7

The Final Environmental Impact Statement must clarify this issue and specifically address the impact of single-shell tank waste disposal on the first repository. I am deeply concerned that the Department of Energy's illegal second repository decision will add pressure by the Department to stabilize the single-shell tank waste in place.

3.3.2.1

Another issue of particular concern is that the Draft Environmental Impact Statement does not adequately address the

111

massive quantities of chemical waste currently in the single-shell tanks and contaminating Hanford soil. This chemical contamination is a dangerous environmental and health threat. The Department of Energy must take immediate action to identify the hazardous chemicals at Hanford and ensure that each disposal alternative specifically addresses chemical contamination.

3.1.6.1

In addition, the Draft Environmental Impact Statement does not indicate that the Department of Energy intends to comply with the requirements and the intent of federal and state environmental laws. The Washington Department of Ecology already has fined the Department of Energy for Hanford's non-compliance with certain environmental law. The Department's non-compliance with these environmental laws can not be tolerated.

2.4.1.1

The Department of Energy must demonstrate that its defense waste actions can satisfy federal and state laws. In the Final Environmental Impact Statement, the Department should indicate its intent to comply with all appropriate federal and state laws to protect public health and the environment.

2.4.1.1

Another concern which deserves special note is the impact of the transportation of defense waste. In my view, the Department has not adequately addressed transportation impacts

3.4.2.23

151

in the ongoing site selection process for high level waste repositories. I have cosponsored legislation to rectify this serious oversight, and I caution the Department not to make the same error in considering defense waste disposal options. I join the citizens of Spokane and other communities on potential transportation corridors in urging the Department of Energy to carefully consider the transportation impacts of its defense waste actions. In addition, it is important that the Final Environmental Impact Statement includes an explanation of the federal assistance which will be made available to local emergency response providers.

3.4.2.23

3.4.2.24

I strongly support the Department of Energy's efforts to clean up Hanford. I will continue to work for adequate federal funding to support these efforts, including continuing work on a facility to process rather than bury the N-Reactor's radioactive discharge, pumping radioactive liquid out of single-shell tanks, and researching and developing technologies, such as the glassification facility, for immobilizing nuclear waste.

2.3.2.12

2:00 PM Session

VERBAL TESTIMONY FOR SENATOR SLADE GORTON ON THE HANFORD DEFENSE WASTE DRAFT ENVIRONMENTAL IMPACT STATEMENT OF THE DEPARTMENT OF ENERGY, PRESENTED BY DICK ELLIS, EASTERN WASHINGTON DIRECTOR FOR SENATOR GORTON.

JULY 17, 1986

Mr. Chairman:

It is an honor for me to have this opportunity to make a brief statement on behalf of United States Senator Slade Gorton. Written testimony will be delivered to the committee.

2.2.14 Senator Gorton is determined to adhere to the site selection process for the permanent disposal of nuclear waste as set forth by Congress. He has publicly abhored the actions of the Department of Energy in deviating from this process.

2.1.1 Senator Gorton has joined with Senator Dan Evans and Governor Booth Gardner in proposing a special Legislative session to formally protest the nomination of Hanford as a national nuclear dump site.

2.2.9 In the meantime, Senator Gorton has recommended that funding and attention be given to ongoing projects at Hanford that have not been adequately addressed heretofore:

1. Bring Hanford into complete environmental compliance.
2. Attention to an Effluent Treatment Facility.
3. Pumping of hazardous waste from single-shell tanks.
4. A nuclear Waste Treatment Program to immobilize nuclear waste.
5. Advancement of the Waste Vitrification Plant designed to recycle and utilize useable nuclear wastes.

Senator Gorton urges candid and open recognition of the importance of effective handling and disposition of nuclear wastes and strict compliance with the selection process designated by Congress.

Thank you, Mr. Chairman, for this opportunity.

152

JUL 14 1986

Hamlet Rt. Box 1375
Seaside, Oregon 97138
July 10, 1986

U.S. Dept. of Energy
P.O. Box 550
Richland, Wash. 99352

Gentlemen:

Please consider the following suggestions;

1. Put on an extensive public relations and Education program to promote the benefits of the radioactive properties of your waste.
2. Promote research on how it can be utilized, like for preserving food, controling insects and vermin, medical and industrial x-rays, and possibly for high security fences or barriers. 2.5.8
3. Counteract the anti propoganda by immediately starting the glassification of all stored waste to alevíate the fears of ground water contamination. 3.1.8.9
4. After extensive research and education, it may be possible to sell the waste as a desireable product throughout the world. 2.5.8
5. In order to encourage research and utilization alot each state their share of glassified waste to be responsible for.
6. In the meantime storage can be above ground where it can be monitored and very carefully handled as are many other hazardous materials. 3.3.4.2

Good luck and best wishes.

Sincerely,
Vernon R. Hill

3426 NE 19th Ave.
Portland, OR 97212
July 18, 1986

R.A. Holten/EIS
U.S. Department of Energy
Richland Operations
P.O. Box 550
Richland, WA 99352

Dear Sir or Ms.:

2.1.1 We wish to express our strong objections to the location of the nuclear waste depository at Hanford, in Washington State. Its location so close to the Columbia River, a critical source of water and recreation for both states (Washington and Oregon), as well as the unproven safety of the site make it a dangerous and risky choice.

We recognize that the nation needs to have a nuclear waste depository somewhere, and that no one wants it in their "backyard," but there must certainly be locations that are less populated, with more stable geology, and less risk to important sources of water (such as the Nevada site).

Thank you for your consideration of this letter.

Sincerely,

Richard Rosenberg

Richard Rosenberg

Rochelle Rosenberg

Rochelle Rosenberg

153

Testimony for Department of Energy Public Hearing on Nuclear Waste Management - July 8, 1986, Richland Washington.

Given by Melissa Webster, 1235 Isaacs, Walla Walla, Wa. 99362

My name is Melissa Webster. I live in Walla Walla with my husband and two children. The announcement that Hanford was recommended as a finalist for the nation's nuclear waste dump shocked and disappointed me. I had understood that the Hanford site was not favorable for underground radioactive wastes because the rock of this region is porous. I had understood that the large population area in the basin and the proximity of the Columbia River also made this area unsafe for this type of storage. What has changed to cause this area to be considered now for the great hot spot of the nation? 2.1.1

Other questions which haunt me are:

If we have so much waste already and have no safe way to defuse or dispose of it why do we continue to produce it? Wouldn't it be better to develop safer forms of energy? 2.5.6

Why must one area (or two) of the country be sacrificed in this way when nuclear waste is being produced at many sites? 3.3.5.2

Why does the DOE think we will accept a study which they have made themselves and which serves their own interests? 2.5.5

Why do they tell us it can be safe when we know in our hearts it would not be? The past record at Hanford and the disaster at Chernobyl justify our mistrust and fear. 2.2.12

And finally, why does anyone or any agency or government think they have the right to pollute the earth in this monumental and irreversible manner? In our careless use and abuse of nature in the name of progress we have come so far that we no longer see the magnitude of what we are doing.

I have a right to speak here today because I live close to the Hanford area and I care deeply about preserving the beauty and safety of this region. But I speak also for the protection of the entire country and I urge the department to see to the ending of nuclear waste production before it provides for long term storage of present and future waste.

Thank you.

Melissa J. Webster

Melissa J. Webster

TESTIMONY OF

GOVERNOR BOOTH GARDNER

STATE OF WASHINGTON

for

USDOE PUBLIC HEARINGS

on

DEFENSE WASTE ENVIRONMENTAL IMPACT STATEMENT

by

CURTIS ESCHELS

SPECIAL ASSISTANT ON ENERGY ISSUES

July 8, 1986

116

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Governor Gardner requested that I express his regrets that he could not be here personally to comment on the Draft Environmental Impact Statement on the Disposal of Hanford Defense High-Level, Transuranic and Tank Wastes. He asked me to present his testimony. My name is Curtis Eschels. I am Governor Gardner's special assistant on energy issues. I Chair the state of Washington Energy Facility Site Evaluation Council, and I am a member of the state of Washington Nuclear Waste Board.

Before I make specific comments, I will take a few moments to list general criteria the U.S. Department of Energy (USDOE) should use to reach decisions. The number one criterion must be the protection of public health and the environment. To meet this all important criterion, USDOE must: 2.2.3

- use state-of-the-art technologies; 3.3.5.4
- comply with appropriate laws by leaving the shadow of the 1954 Atomic Energy Act exclusions and moving into the sunshine of current federal legislation; 2.4.1.1
- consider economics, but not allow economics to drive decisions; 2.2.3
- minimize future releases; and 2.5.6
- make sure science, not politics, prevail in the decision making process. 2.2.1

The cleanup of this 40 years accumulation of wastes is a major, long-term challenge for USDOE and the state of Washington. This Draft EIS is the beginning of a long, difficult, and expensive task.

I am pleased that the citizens of this region have become so knowledgeable about this issue. I credit the USDOE and state of Washington information programs for providing information to the citizens. I hope these information programs will continue even though the Draft EIS comment period will soon end. 2.3.2.8

The following specific comments are made in the spirit of improving this draft impact statement. This three volume, 1,000 page document is, for the most part, clearly written and technically sound. However, to make the final document complete and adequate, USDOE must incorporate the following issues.

Chemical Hazards

The scope of the DEIS is too narrow. The document does not adequately deal with the hundreds of thousands of tons of chemical wastes included in tank wastes and dispersed in Hanford soils. The hazards of chemical contamination are no less real and urgent then 3.1.6.1

the hazards of radioactive materials. USDOE must inventory chemicals contamination and each disposal alternative must specifically address chemical contamination.

Soil Barriers

3.5.1.57 The Draft EIS appears to make overly optimistic performance assessments for soil barriers. The validity of the EIS is in jeopardy if the available literature has been misrepresented. Barrier performance must be substantiated by previous studies and actual experience. Pathway and travel time calculations are meaningless until barrier performance is substantiated.

Compliance With Safety Laws

2.4.1.1 We are concerned that the USDOE emphasis on stabilization of tanks is contrary to the Nuclear Waste Policy Act "multiple barrier" approach which requires stabilization of both the container and the wastes. The USDOE approach leads to an acknowledged contamination of Hanford groundwater. Contamination of groundwater is contrary to state law. In the final EIS, USDOE should agree to comply with all appropriate state laws to protect public health and the environment.

Compliance With the National Environmental Policy Act

155

2.4.1.17 In the final impact statement, USDOE must specifically identify the impacts of "the" proposal as required by the National Environmental Policy Act. The use of "bounding assumptions" to cover a range of impacts or alternatives is not acceptable. Delayed records of decision will require, as a minimum, a supplemental EIS with an opportunity for citizen comment.

2.5.7 The draft document calls for a system to mark the boundary of the actual disposal sites. USDOE describes what it calls "actual disposal sites" which would cover 32 square miles. In our opinion, not all the 32 square miles must be off limits forever. Only that land that is irretrievably contaminated by dangerous wastes should be written off. USDOE must establish a separate, public process to condemn land prior to writing it off.

Ability to Monitor

2.1.7 USDOE must, in the final EIS, evaluate the impact of defense wastes on the ability to monitor a proposed repository. This monitoring is especially important in the earlier postclosure years. It is obvious that even consideration of a repository requires the best possible cleanup of defense wastes.

116

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JUL 22 1986 0016
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Effect on Other Decisions

2.2.3 Health and safety issues must be the major factor in the cleanup of defense wastes and in decisions leading to the selection of a site for geologic disposal of high-level wastes. From all indications, the decision to indefinitely postpone work on a second repository was based, in part, on USDOE data which assumed single-shell wastes would not go to a repository. If the decision was influenced by such an assumption, there will surely be added pressure by USDOE to stabilize the single-shell tank wastes in place. In addition, the use of such data to make a decision on the second round repository raises serious questions about the validity of the geologic repository alternative for single-shell wastes. The spirit and intent of the National Environmental Policy Act requires consideration of valid alternatives. The final EIS must clear up this confusion and must clearly address the impact of single-shell wastes on the design and construction of a repository--wherever it is built. The final document must include specific information on the number of canisters of glassified waste USDOE expects to extract from single-shell tanks.

3.3.2.1

2.1.7

Conclusion

3.3.5.3 In conclusion, I support strongly USDOE's efforts to move ahead on key elements of the Hanford cleanup. This includes continuing research and preliminary design work on the glassification and grout facilities. The state of Washington will work to forge a coalition to support cleanup funding.

The Washington State Nuclear Waste Board will testify at the Seattle meeting and the Board will submit detailed comments on or before the August 9 deadline.

Governor Gardner and I thank you for this opportunity to comment.

117

To: Department of Energy, Hanford Waste Site Hearing, July 8, 1986

Subject: Production and storage of nuclear materials

From: Gretchen de Grasse, 127 Whitman St., Walla Walla, 99362

The Department of Energy and the Reagan administration have been cavalier in their treatment of the public and its elected representatives. On Monday, July 7th, Congressman Sid Morrison said that a Washington State lawsuit and congressional legislation will 2.1.1 probably fail to take the Hanford nuclear reservation off the list of three contenders for the nation's first high level nuclear waste repository. If a lawsuit brought by the state of Washington and congressional legislation are doomed to failure, then what is the purpose of this hearing? A cartoon in last week's New Yorker (June30th) expresses the contempt of agencies like the Department of Energy and the Pentagon for the public: One general to another in a closed meeting says "No, no. When I say this new secret weapon can slip past their defenses undetected, I;m not referring to the Russians, I'm referring to Congress." It is wrong that the public must beg for mercy before a governmental agency that has no legislative or judicial authority.

156

Safe public policy requires that no new nuclear wastes should be generated until a safe storage and monitoring system is created. The N-reactor, which produces weapons grade plutonium, should be shut down immediately on general principles. We already manufacture and sell too many weapons. During the fiscal year 1985, the United States sold more than 11 billion dollars worth of weapons 2.5.6 to 115 countries on a government to government basis. During the same period, under the Arms Export Control Act, the United States sold over 2 billion dollars worth of weapons in private sales to 167 countries. Some of the countries are not friendly to each other, or, to us. It would be safer to send cherry bombs in diplomatic pouches than to continue making weapons grade plutonium for defense or sale.

Given the contempt of the Reagan administration for the United Nations and the World Court, and the contempt of the world for the Reagan administration; is is reasonable to doubt the control of nuclear weapons by the United States or others like us.

Given the events at Three Mile Island and Chernobyl, it is reasonable to doubt the safety of the N-reactor.

Given the duplicity of the Department of Energy about emissions at the Hanford site, it is doubtful whether "Grandma's 2.5.5 Cookies" should be stored there.

Reasonable doubt means that there is debate on at least two sides. A superior, we know best, attitude taken by the Department of Energy and President Reagan is inappropriate and unhelpful. I beg the Department of Energy not to risk human life and our environment over debatable issues. The generation of nuclear waste should cease until the debate is resolved.

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To DOE - Hanford Wastesite Hearing, July 8, 1986

The people of the Northwest have been asked to respond to the Department of Energy's Environmental Impact Statement at this public Hearing. It is well known, there are two great fears of most people ... death and public speaking. We might now add to that — public speaking specifically on the subject of what to do with high level nuclear wastes -- which is the field of Nuclear physicists.

"The people of the Northwest are alarmed over the nuclear waste situation. On such a hazardous subject where a nuclear accident could make the Northwest uninhabitable, only a State Vote is an appropriate means for a decision on what to do with nuclear wastes. Public awareness would then be possible and voting is an experience with which Americans are familiar. 2.3.2.8

I Call for a State Vote on the decision for nuclear wastes and any other decision relative to the safety and welfare of the total population of the Northwest.

Claudia E. Patterson
Rt 3, Box 122
Walla Walla, Wa. 99362

157

Department of Energy Hearing - July 8, 1986
Environment Impact Statement
Lisa Lyons - 307B East Main Street, Walla Walla, Washington 99362

I would like to live and raise a family in the Northwest. I celebrated my first anniversary on July 6. The nuclear risk in the Northwest is becoming too great. People will be forced to relocate outside of the Northwest. New industry will not risk coming in. Many will close and leave. People outside the area will not send their children to colleges in the Northwest. 3.2.6.1

The Department of Energy's environmental impact statement says that their four waste storage options have no health risk to the public. I don't believe this! The Department of Energy has already permitted Hanford to secretly release huge amounts of radiation into the atmosphere of the Northwest. I wonder how many cancers this has already caused and will continue to cause. 2.5.5

This guaranty of safey sounds familiar. In the February 1986 issue of Soviet Life magazine, Ukranian Power Minister Vituli Sukurov said that "There was one chance in 10,000 years of a meltdown." As we all know, two months later Chernobyl blew. The N-Reactor, like Chernobyl has no dome and has a graphite-moderated core and is being called less safe than Chernobyl!

There is a mysterious wasteland in Russia in the southern Ural mountains, larger than New York City. The city of Kyshtym and other small towns no longer exist. There is no life, no people. Highways were built over the land, and signs say "keep windows roled up -- do not stop." This was believed to be an area of plutonium production. An exiled Soviet biologist now living in London, who has studied the situation, says it was due to shallow burial of stored radioactive wastes which overheated and exploded like a volcano. One of your dangerous options in your statement is to put a concrete covering on the radioactive wastes that have been dumped in unlined pits at the same time the Soviets were doing the same 3.4.3.8

thing in a town that doesn't exist anymore.

The impact statement gives a population report of the people in an 80-mile radius of Hanford. This is the danger distance from Chernobyl to Kiev or Hanford to Walla Walla where I live. It points out that we are a low-population area, therefore eligible for risk. Low-population is not NO-population. The inclusion of this low-population report in the same report stating a "presumed zero risk to public" of nuclear wastes is a contradiction in the report of itself.

The young people of the Northwest ask for safety for our future.

2.2.1 The existing and future nuclear wastes must be neutralized.

The N-Reactor so like Chernobyl must close.

2.5.6 Please avoid a mass exodus of people from the Northwest. We love this area and wish to stay and raise our families here.

158

Lisa Lyons
307 B East Main
Walla Walla, Wa
99362

DOE Richland Operations Office
ATTN R.A. Holten/EIS
Waste Management Division
Richland, WA 99352

8 July 1986

p.1/3

I am writing to express my opinion concerning the DOE's draft Environmental Impact Statement entitled 'Disposal of Hanford Defense High-Level, Transuranic, and Tank Wastes', and wish to raise the following points:

1) THE DEPT. OF DEFENSE AND DEPARTMENT OF ENERGY SHOULD BE REQUIRED TO MEET AT LEAST THE MINIMUM SAFETY STANDARDS REQUIRED OF COMMERCIAL REACTORS, BOTH FOR THE OPERATION OF NUCLEAR FACILITIES AND THE DISPOSAL OF NUCLEAR WASTES. I believe it is the responsibility of the United States' Federal Government to protect its citizens from internal as well as external threats to their health and well being. I therefore cannot understand why the United State's Department of Energy (DOE) consistently operates using lower standards of safety than are required by the federal government for commercial nuclear reactors in this country: 2.2.7

a) How does the DOE justify operating the N-reactor and other federal reactors without containment domes, and with less rigorous safety standards than those set by the Nuclear Regulatory Commission (NRC)? I do not accept the rationale that because they generally operate within the NRC guidelines it makes no difference that their standards are more lax. Because the DOE has the technical capability to operate within the NRC guidelines, the DOE and DOD should be required by law to meet at least the safety standards required of commercial reactors and commercial waste. 2.5.6

2) ALL DEFENSE WASTES SHOULD BE RETRIEVABLY STORED FOR AT LEAST 50 YEARS, AND ALL DEFENSE WASTES SHOULD BE DISPOSED OF BY DEEP GEOLOGIC BURIAL. This nation has decided that geologic disposal by deep burial, with wastes retrievably stored for at least 50 years, is the safest method for disposing of the spent commercial fuel. The DOE should be required to dispose of all its wastes in the same way. Therefore the DOE should not be allowed to dispose of its wastes by In-place stabilization, and consequently options 2 (In-Place Stabilization) and 3 (Reference) are unsuitable. 3.3.4.2 3.3.1.1 3.3.2.1 3.3.3.1

a) I urge the DOE and at least one independent agency to consider other options for the safe retrieval of the pre-1970 defense wastes, so that it can be safely stored by deep geologic disposal at a site outside of Hanford, and retrievably stored for at least 50 years before burial. There is no justification for any other course except cost and political expediency, which should not be factors on wastes which must be isolated from human contact for at least 10,000 years. 3.3.5.3

3.5.5.28 3) ARE RADIOACTIVE DAUGHTER ISOTOPES INCLUDED IN TABLES 1 & 2? Tables 1 &2 (p.1.11 & 12) are difficult to understand. For instance, Americium-241 is a radioactive decay product of Plutonium-239+240, and yet it is not shown to increase as Plutonium decays. Were radioactive decay products computed into Table 2, or does it only depict the initial quantities of radioactive isotopes? If not included already, please recompute to accurately reflect the total quantities of isotopes.

3.3.2.1 4) OPTIONS 2 & 3 ARE VIRTUALLY IDENTICAL AND BOTH ARE UNACCEPTABLE. The reference option (option 3) is only a different name for onsite stabilization (option 2). If one looks at the numbers, it is clear from the reference (option 3) that the DOE plans to dispose of all pre-1970 waste (which is virtually all of the present defense waste) and even some of the post 1970 waste by in-place stabilization (option 2).

3.3.2.1 a) Most of the plutonium generated and extracted by the defense department was done between 1944 and 1972. No extraction was done between 1972 and 1983. The reference option plans to stabilize in place all waste generated prior to 1970, and much of what has been generated since then (see p. B.24). Therefore, option 3 is just a fancy name for option 2, with more than 90% of the total defense waste being stabilized in place, as outlined in option 2. Therefore, both options 2 & 3 are totally unsuitable.

3.5.5.14 5) WHY ARE THERE NO CONFIDENCE INTERVALS FOR ESTIMATES? One cannot foresee even the near future with 100% certainty, and predicting events 10,000 years into the future is even more difficult. Why then do the EIS tables lack confidence intervals on the estimates? For instance, on p. xii of Vol. I it is stated that Downstream users of the Columbia River would incur at most one health effect associated with the disposal of waste over the 10,000 years. This is only one example of the consistent lack of confidence intervals for estimates. It is impossible to evaluate the data presented without some idea of the uncertainties involved. 95% certainty levels should be presented for all tables representing estimates. What are the uncertainties involved in your health impact estimates? How were these determined?

2.3.2.5 6) AN INDEPENDENT STUDY AND INDEPENDENT EIS IS IMPERATIVE BEFORE ANY DECISIONS BE MADE CONCERNING NUCLEAR WASTE DISPOSAL. It violates standard scientific practices to have the agency responsible for the generation of the nuclear waste also responsible for evaluating the health and environmental impacts of

2.3.2.9 nuclear waste generation and storage. It is impossible to evaluate the scientific data presented without independent input and review. It is imperative that an independent agency be charged with data collection, analysis, outline of options and production of the EIS

159

120

3.3.5.4 7) NO ACTION SHOULD BE TAKEN UNTIL LESS HAZARDOUS TECHNIQUES ARE DEVELOPED FOR THE RETRIEVAL, PROCESSING, AND STORAGE OF THE PRE-1970 DEFENSE WASTES. It is clear from the wording throughout the EIS that the DOE does not yet have techniques for the safe retrieval and disposal of the pre-1970 defense wastes (see p. 1.8, 1.17 for examples). Therefore, no action should be taken until technologies can be developed for the safe retrieval, processing and storage of this wastes. It is unconscionable to literally sweep this waste under a rug of concrete and leave future generations with the task of cleaning it up should the DOE's predictions of environmental impact prove in the future to be too optimistic.

Paul H Yancey

121

return

DOE Richland Operations Office
ATTN R.A. Holten/EIS
Waste Management Division
Richland, WA 99352

6 July 1986

I am writing to express my opinion concerning the DOE's draft Environmental Impact Statement entitled 'Disposal of Hanford Defense High-Level, Transuranic, and Tank Wastes' (EIS), and wish to raise the following points:

160

2.3.2.9 1) AN INDEPENDENT STUDY AND EIS IS NECESSARY. To respond to all the objections I have to the alternatives outlined in the DOE's EIS would take more space than the EIS. Suffice it to say that I cannot accept any data, probabilities, or conclusions presented in the EIS, since the EIS is researched and written by the same department which has generated, carelessly stored, and must now try to clean up and dispose of the wastes. I believe that no action should be taken on disposal of defense nuclear wastes until an INDEPENDENT agency can both examine the original data, critique the DOE's EIS, explore other retrieval and disposal options and make recommendations as to how the defense waste should be retrieved and disposed. It is unconscionable that there has been no independent study on wastes as hazardous and long-lived as the defense nuclear waste.

2.5.5 a) This nation was built on the ideal of separation of powers: separation of church and state, and separation of judicial, legislative, and executive bodies of government. How then can this same nation set one department, the DOE, with the task of generating, monitoring, storing, and ultimately disposing of its own hazardous materials? This is clearly a conflict of interest. No matter how noble the purpose and how strong the desire for objectivity, it would be asking the impossible of any individual or organization to remain neutral and objective on all facets of this issue. I therefore consider it imperative that an independent agency be set up to monitor past, present, and future generation and storage of defense

2.2.13 wastes and to determine how best to retrieve and dispose of the defense wastes already generated.

2.5.5 b) I know that the siting of the commercial waste repository is beyond the scope of the defense waste EIS, but I believe it is nevertheless relevant to point to the DOE's violation of its own guidelines in elevating Hanford from 5th of 5 sites to 3rd of the three sites chosen for further characterization. The DOE has lost all credibility as an objective party by placing its departmental concerns above the health and safety of the American people. This agency cannot be trusted to present options which accurately reflect the real health and environmental impacts involved.

121

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JUL 22 1986 0121
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3.3.4.2 3.3.1.1 3.3.2.1 2) ALL DEFENSE WASTE SHOULD BE RETRIEVABLY STORED FOR AT LEAST 50 YEARS AND THEN DISPOSED OF BY DEEP GEOLOGIC BURIAL. This nation has decided that geologic disposal by deep burial is the safest method for disposing of the spent commercial fuel, and that wastes should be stored retrievably for at least 50 years. The DOE should be required to dispose of its wastes in the same way. Therefore, the DOE should not be allowed to dispose of its wastes by in-place stabilization, and consequently options 2 (In-Place Stabilization) and 3 (Reference) are unsuitable. Furthermore, retrievable storage for all wastes for at least 50 years should be mandatory.

3.3.4.2 a) Why was retrievable storage not considered in the EIS, particularly for the pre-1070 wastes? It is imperative that a retrievable option be evaluated and utilized.

2.2.7 b) It is the duty of government to protect its citizens from external as well as internal harm. Why does the DOE continue to operate its reactors and propose disposing of its nuclear waste under lower standards of safety than those required by the government of commercial reactors? The DOE should be required to meet HIGHER standards, not lower ones! This imperative applies to the operation of the defense reactors, including the N-Reactor, the operation of the PUREX plant, and the processing, storage, retrieval and disposal of all defense nuclear wastes.

3.3.1.1 3) ALL DEFENSE NUCLEAR WASTE SHOULD BE REMOVED FROM HANFORD TO A GEOLOGICALLY SAFE DEEP REPOSITORY. The National Academy of Sciences, which is by the DOE's own admission this nation's most prestigious collection of scientists, considersd the Hanford site unsuitable commercial nuclear waste storage, due to the potential for groundwater and Columbia River contamination. It recommended the DOE change its selection criteria, such that Hanford should have been dropped from the list of characterized sites for commercial waste storage. Defense wastes are more unstable than commerical wastes. These wastes also not be stored at Hanford, and should be shipped away from Hanford for disposal. The location should be chosen on the basis of geologic safety, not political expediency. The DOE has already compromised the siting of the commercial waste repository. It should not be allowed to do the same for the defense wastes.

2.1.1 a) P. 1-8 states that sending most of the Hanford wastes to a deep repository after they have been immobilized in glass may not be justified when risk and cost are weighed against benefits." If it is not worth the risk to transport wastes from Hanford somewhere else, then why is it worth the even greater risk (greater since more waste (see p. 1-7, and greater distances are involved) to transport commercial waste from the East Coast to Hanford? Surely the granite sites on the East coast, the Nevada Tuff, the Texas Salt, and the rocks at whatever site should have been chosen instead of Hanford for further characterization, would be at least as safe as the water-saturated Hanford Basalts!!!!! This is clearly a double standard.

3.4.2.2

2.1.1

121

3.3.5.4 4) NO ACTION SHOULD BE TAKEN UNTIL SAFE TECHNOLOGIES FOR THE RETRIEVAL, PROCESSING, AND RETRIEVABLE STORAGE OF THE PRE-1970 DEFENSE WASTE ARE DEVELOPED. The defense department created this waste, and should be held responsible for disposing of ALL its wastes in the same manner as that required of commercial nuclear reactors. It is clear that the DOE does not yet have the expertise to do this safely (see p. 1.8 & 1.17).

3.3.4.2 a) Therefore, no action should be taken on the long-term disposal of the defense wastes until technologies can be developed to retrieve and package the pre-1970 waste in a manner suitable for deep geologic disposal, and should be retrievably stored for at least 50 years.

2.5.6 b) Because the DOE cannot yet safely store the nuclear waste generated by plutonium extraction, the N-Reactor and PUREX plant should be shut down and no new waste generated until such time as technologies for the packaging and disposing of the waste in the same manner as for commercial nuclear waste are developed.

2.1.3 5) HANFORD IS INAPPROPRIATE AS WELL AS UNSUITABLE FOR STORAGE OF BOTH DEFENSE AND COMMERCIAL NUCLEAR WASTE. Because plutonium is currently a waste product of the commercial industry and the desired end product of the defense department, commercial fuel should under no circumstances be stored at a defense facility. THEREFORE, HANFORD SHOULD BE REMOVED FROM CONSIDERATION AS A REPOSITORY SITE FOR SPENT COMMERCIAL NUCLEAR FUEL! To store the commercial waste at Hanford is yet another violation of the separation of powers on which this nation prides itself. It also violates our 40-year policy of separating the peaceful and destructive uses of the atom and is an open invitation to other nations to make weapons out of their commercial fuel.

2.1.3 a) No government will believe we do not use spent commercial fuel for warheads when this rich plutonium resource is located in the middle of a defense facility, even if we did not use it for warheads! There are sufficient non-defense sites available in this nation that there is no need to locate commercial waste at the only defense facility in the entire nation that is reprocessing spent fuel for warheads (unless the government intends to do so). The fact that the DOE elevated Hanford from a low position on the list of available sites, passing over more suitable sites based on safety, supports the notion that Hanford is being chosen as a commercial plutonium-extraction site (either for bombs or breeder fuel) rather than a commercial waste storage site.

2.1.3 b) What assurance can the DOE give the American citizens and the rest of the world that spent commercial fuel will not be processed into plutonium for warheads if the commercial waste is stored at Hanford? I realize that there is currently legislation to prevent this, but congress could change the legislation, and even if it does not, the DOE could place a blanket of 'National Security' over the site and reprocess the spent commercial fuel without permission. How can this be prevented if the commercial waste is located on a defense site?

191

121

2.1.3 c) I know the DOE would like to argue that this issue is not relevant to the defense waste EIS, but I believe the two issues are inseparable. By setting the precedent of 'in-place stabilization' for the defense waste, they are paving the way to extract plutonium from the spent commercial fuel at Hanford, thereby turning the more easily disposed of commercial waste into the same high-volume liquid, sludge, and solid waste that the defense department cannot yet dispose of safely. If it can sweep 40 year s accumulation of defense waste under a rug of concrete, as options 2 & 3 intend to do, it can just as easily sweep all the commercial waste under the same rug after it has been reprocessed to remove the plutonium and uranium, whether for warheads or breeder fuel.

3.3.2.1

2.1.1 2.2.7 --It is therefore imperative that commercial nuclear waste not be stored at Hanford, and that defense waste be subject to the same disposal practices as are currently required for spent commercial fuel.

Sincerely,

C.S. Weller
224 N. Bellevue Ave.
Walla Walla, WA 99362

122

Sonia Trapani, 1405 School Avenue, RR6, Walla Walla, Washington 99362

I am a mother and a homemaker and I speak for the families and future families of the Northwest. The people of the Northwest are being selected by the D.O.E. to be a National Sacrifice Area. The residents who dare to face the dreadful reality of the double nuclear peril are frightened. The double peril is 1) the thusfar irresolvable nuclear waste problem and 2) the Chernobyl-like Hanford N-Reactor which is located on the Columbia River.

The DOE's environmental impact statement has four unacceptable options and are a pretense at having a permanent solution to the nuclear waste problem. Here are the four options given us -

3.3.1.1 1) Deep geological disposal means digging down 900m to bury the retrievable waste in barrels. Passing through our water supply involves the risk of accidental contamination. There is also no known substance for barrels that can permanently hold the highly corrosive toxic waste. It is dishonest to presume that these containers will not soon leak and ultimately totally corrode. The current barrels in use since 1970 are continually leaking. In fact, that is why double-lined barrels are now used which face the same dilemma.

162

2) In-place stabilization - What a joke! No one currently knows how to "stabilize transuranic wastes". All of the waste prior to 1970 was dumped into unlined pits to soak into our porous basaltic soil. This

3.3.2.1 so-called "non-retrievable waste" presents a grave danger to the people of the N.W., the groundwater and the 1,214 mile-long Columbia River. It is a pretense for you to put a barrier of concrete over it and call~~ing~~ it "stabilized". These wastes must be retrieved and neutralized. Until you can do that, you do not have a permanent storage solution.

3.3.3.1 3) A combination of above two -- two wrongs don't make a right!

3.3.4.1 4) Leaving it as it is -- The housekeeping of the DOE has been perilous! sloppy. Hazardous wastes have been carelessly and temporarily stored in unlined pits and now one of our options is to leave it as it is. We are not talking about spilled milk, but we are talking about the greatest hazard man has ever created.

The most disturbing aspect of the impact statement is that the Northwest is being used as a scapegoat. The DOE is warming us up to becoming the National dumpsite. If you take a map of the United States and visual- 2.1.1
ize it as YOUR home in Washington D.C., imagine that you have the most vile, obnoxious rubbish to dispose of that nobody else wants. Where would you put it? ... in the furthest corner of your property ... in fact that is exactly what pigs do!

We in the Northwest deserve as much protection as more populated areas in the country. We should not have to carry a disproportionate risk for Federal operations. The impact statement lies and says there is zero health risk to the public in all four options. What prospective scientist would pass his thesis in school if he concluded as you did in the impact statement -- "presumed health risk zero". In fact, no one in the country except the DOE believes that since no one else in the country wants a dumpsite. A Senator said, there is the NIMBY syndrone all over -- Not In My Back Yard!

President Reagan himself assured the people of the East that they would have no nuclear dumpsite. Obviously, he is aware of the danger to them. Ironicly, they have a more suitable granite rock soil. The Northwest is an endangered habitat! The Chernobyl/type N Reactor at 2.5.6
Hanford must close. The so-called "non-retrievable" wastes must be retriev- and neutralized. Impossible? Then you MUST NOT produce more plutonium. There already has been enough produced to destroy the whole earth.

Until nuclear waste can be neutralized so that it can safely be in the backyard of Washington DC, Los Angeles and New York, the Northwest CANNOT allow itself to become a National Sacrifice Area!

JUL 22 1986 0122

123

Frank Trapani
1805 School Ave
Walla Walla Wa 99362

return

MY NAME IS FRANCIS J. TRAPANI. I RESIDE IN WALLA WALLA. I AM A PRACTICING CHIROPRACTOR, AS WELL AS A PROFESSOR OF CLINICAL NUTRITION AT WESTERN STATES COLLEGE IN PORTLAND, OREGON, ON THEIR POST GRADUATE FACULTY.

I SPEAK NEITHER AS A GEOLOGIST NOR A NUCLEAR PHYSICIST, BUT AS A REPRESENTATIVE OF THOSE WHO CANNOT BE HERE AT THIS TIME .... THOSE PEOPLE WHO WOULD OCCUPY THE PACIFIC NORTHWEST FOR THE NEXT 10,000 YEARS.

WE ARE TOLD THAT PLUTONIUM, PRODUCED IN THESE NUCLEAR REACTORS, ONLY ONE OF THE MANY BI-PRODUCTS, WILL GIVE OFF RADIATION FOR 250,000 YEARS, ~~BUT~~ AND THAT'S IT'S HALF LIFE ..... THE TIME NECESSARY FOR IT TO DECAY TO 1/2 ITS ORIGINAL CONCENTRATION IS 24,400 YEARS.

THESE FIGURES STAGGER MY IMAGINATION AS I'M SURE THEY HAVE STAGGERED THE IMAGINATONS OF THOSE WHO CAME UP WITH THE FIGURE OF 10,000YEARS AS THE HALF-LIFE OF THE WASTE THAT IS EXPECTED TO BY DUMPED AT ANY NUCLEAR REPOSITORY.

ALTHOUGH I'M SURE THAT THE FIGURE OF 10,000 YEAR HALF-LIFE IS A PROFOUNDLY INACCURATE ESTIMATE, I WOULD LIKE TO GIVE A CONCEPT OF JUST HOW LONG 10,000 YEARS REALLY IS.

IF WE LOOK BACK IN TIME, MESOLITHIC MAN WAS HUNTING WITH FLINT-TIPPED SPEARS 10,000 YEARS AGO. THE FIRST POTTERY WAS MADE 8,000 YEARS AGO. WRITING WAS INVENTED AND FIRST USED 5,000 YEARS AGO. THE WHEEL WAS FIRST USED 5,000 YEARS AGO. WHAT IF MESOLITHIC MAN, THROUGH SOME QUIRK, HAD DEVISED A PUTRID TOXIN WITH A "HALF-LIFE" OF 10,000 YEARS? WHAT IF THAT TOXIN WAS POLLUTING ~~THE~~ OUR WORLD NOW? WHAT WOULD WE THINK OF THEM?

WE HAVE NO RIGHT TO PRODUCE A SUBSTANCE SO TOXIC, SO DEADLY, SO LONG-LASTING, THAT IT COULD AFFECT OUR BIOSPHERE FOR A HUNDRED YEARS .... LET ALONE 10,000!!!!

BUT, YOU SAY YOU HAVE WAYS OF HANDLING IT. REALLY?? THERE CAN BE ONLY TWO EXPLAINATIONS FOR THE FOUR CHOICES YOU OFFER IN YOUR ENVIRONMENTAL IMPACT STATEMENT:

(1) YOU EXPECT THE PUBLIC TO BE STUPID ENOUGH TO BELIEVE IT. 2.5.5
(2) YOU ARE ~~STUPID~~ foolish ENOUGH TO BELIEVE IT YOURSELFS.

SURELY, IF YOUR CONTAINERS ARE LEAKING ALREADY, IN LESS THAN 30 YEARS, DO YOU REALLY BELIEVE THAT DOUBLE CONTAINERS WILL LAST FOR 10,000 YEARS? 3.1.4.9

IF THE RADIOACTIVE MATERIAL ALREADY BEING FOUND IN THE COLUMBIA RIVER SILT IS EVEN NOW A POTENTIAL HEALTH HAZARD, DO YOU HONESTLY BELIEVE THAT THE COLUMBIA RIVER AREA WILL BE HABITABLE BY THE YEAR 2500 ..... OR HOW ABOUT IN 10,000 YEARS WHEN THE REST OF THE FILTH FINDS ITS WAY INTO THE ~~AQUIFER~~ AQUIFER LAYER AND INTO THE RIVER? 3.5.4.4

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JUL 22 1986 6123
WM DIVISION

(no comment identified)

163

OBVIOUSLY, THOSE PUSHING FOR THE USE OF THE NORTHWEST AS THE NATIONS NUCLEAR DUMP SITE, ARE DOING SO TO KEEP IT OUT OF THEIR OWN BACKYARDS!

WE DON'T WANT IT IN OUR BACKYARD ANYMORE THE PRESIDENT REAGAN WANTS IT NEAR WASHINGTON, D.C. OR HIS RANCH IN CALIFORNIA. OUR LIVES ARE NO LESS SACRED THAN ANY OTHERS. NOR DO I WISH THIS ~~RATHER~~ RATHER FILTH ON ANYONE. 2.1.1

THERE IS A FIFTH ALTERNATIVE FOR YOUR ENVIRONMENTAL IMPACT STATEMENT AND THAT IS, IF YOU CANNOT NEUTRALIZE IT ~~THEN~~ TOTALLY STOP PRODUCING IT! YOU HAVE NO RIGHT TO ENDANGER THIS GENERATION OR GENERATIONS TO COME! 2.5.6

THERE ARE THOSE OF US WHO LOVE PLANET EARTH, NOT ONLY NOW, BUT 100 YEARS FROM NOW; 1,000 YEARS FORM NOW AND YES, EVEN 10,000 YEARS FROM NOW AND WE WILL NOT HAVE IT RENDERED WASTE BY THOSE FOOLISH INDIVIDUALS WHO CANNOT SEE FURTHER THAN THEIR SELFISH NOSES.

How do we care to be known as that generation that has left a legacy of this magnitude to future generations of this planet.

164

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JUL 22 1986 0123
WM DIVISION

Shirley Hagman
123 East Maple, Walla Walla
7/8/86 Nuclear Waste Hearing

272

My name is Shirley Hagman and I live in Walla Walla. I have here in my hand a petition signed by a number of people from Walla Walla and a few from outlying areas such as Milton-Freewater, Oregon.

The petition reads as follows: "I strongly object to the possibility of Hanford being chosen as the location for a repository for the nation's high-level nuclear waste. There is no way to determine that this waste can be safely contained for 10,000 years. The possibility of contaminated groundwater flowing into the Columbia River is of paramount concern to the citizens of Washington and Oregon. Why should the state of Washington be the garbage disposal for highly dangerous waste from the entire country? NOT FAIR!!! WE DON'T WANT IT!" The impact statement waste plan provides no safe solution. 2.1.1 3.3.5.1

The response to this petition was overwhelming! Of all the people I approached, there were only a handful who declined to sign. The usual response was something like this--"You bet I will!"

Mr. Lawrence (Mike Lawrence) once stated that the opinions of the public will have little or no influence on the decision involving this high-level waste repository. If this is true, I find it appalling! It shows a flagrant disregard for the concerns of the very people who are affected by it. WE live here! WE are the ones at risk! WE are the ones deeply concerned about the safety of our children, our grandchildren and their children and grandchildren. Who should have more right to influence the decision than the very people who live here. 2.3.2.12

I have read that The Health and Energy Institute in Washington, D.C. has determined that the solidified lava rock at the Hanford site is too prone to possible high temperatures, underground water movement, explosive methane gas and the potential for stress-caused "Rock bursting". Potential problems have also been identified by the U.S. Geologic Survey, the National Academy of Sciences and the Nuclear Regulatory Commission. 2.1.1

We are talking about material which could remain hazardous for up to 10,000 years! I do not believe for one minute that there is any possible way to determine that this waste can be safely confined for that period of time! 3.3.5.1

If the response to this petition is any indication at all, the overwhelming majority of Walla Walla people (and I believe, other people in the area) are very strongly opposed to the selection of Hanford as a dumpsite for highly radioactive waste, and your current unsafe waste plan.. 2.1.1

I am here to ask for a ~~state~~ vote on this issue! ~~thank you.~~ 2.3.2.8

272 petitions

RECEIVED DOE-RL
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WM DIVISION

123 C. Mizell

125

STATEMENT FOR DOE Public Hearing 7/8/86 Richland, WA

CANDACE PIERCE 525 BRYANT WALLA WALLA, WA 99362

Greetings: I'm a Neighbor from Walla Walla. In the ongoing flow of my life, I try to reconcile daily stress and tension with potential threat of harm from household accidents, automobile accidents, crime and natural disaster, to list just a few. Environmental pollution in our agricultural community is a sad and frightening phenomenon. To top off the knot of worries, the volatile state of world affairs and the global economy give me cause for great concern. All of this negative stuff overloads my stress circuits causing me to indulge in the all-too-popular tendency to ignore the looming threat of the Hanford facilities. I'd like to bury my head in the sand, but soon that sand could be radioactive. I also realize that the federal political machine is counting on us laid-back Northwesterners to remain laid-back. So although it takes great energy to speak out, I'm afraid to keep silent.

165

Today in Richland at this public hearing I'd like to address two items of enormous concern: the increasing possibility of location of a national high-level nuclear waste repository on the Hanford reservation, and the potential of a "Chernobyl-West", that is, an accident within the N reactor.

2.5.5 The issue of the repository is one of safety or destruction of the Pacific Northwest--not politics and convenience. I have read a summary of the DOE's Draft Environmental Impact Statement, and feel as though the fox has assured me that all the gates and fences of the chicken coop are secure. There is a breakdown in basic language

4.1.18 usage when it is stated that none of the proposals would result in significant impact on the environment.

2.1.1 The basalt rock of the area is completely inappropriate for storage of radioactive and chemical waste, as has been stated by

geologists and also by the Nuclear Regulatory Commission. The basalt is a result of volcanic activity--who can guarantee that for the next 10,000 years there will be no movement of the continental plates? Not only is the proposed ground site unstable, but it is 2.1.1 located so very close to one of the world's largest rivers. The Columbia aquifer serves a huge region, irrigating thousands of acres and providing drinking water for large populations.

And why is it that although the large majority of high-level waste is produced in the eastern half of the United States that storage location is planned for the West? How can it make sense to 3.4.2.2 transport dangerous stuff all the way across the continent, along routes that are populated and not always sunny and dry? Is the population along these intended routes of transportation currently informed? It is an irresponsibility of greedy negligence that the plants producing waste do not also process that waste on site.

The second item of concern here today regards the N reactor. I join the thousands of voices demanding a shutdown of this plant. 2.5.6 In light of the recent accident at Chernobyl, it is treacherous to continue to operate a facility that has many similar structural deficiencies. The potential for human error also looms large--is it possible that there exists the same sort of cocky self-assurance that was the downfall of the space shuttle program? And is there a real awareness of the possible magnitude of any error?

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I realize it is in my best interest to remain calm and polite,
2.5.6 but I feel my fear percolating with rage at the added obscenity of the production of weapons-grade plutonium from products of the N reactor, compounding the danger of this technology.

In summary I'd like to state the following: 1) there is currently at Hanford a quantity of high-level waste without a treatment plan. It is an abomination to bring more, especially to an area that is
2.5.6 geologically unstable. 2) The N reactor must be shutdown immediately in order to allow a thorough safety check and overhaul by independent agencies.

Meanwhile, I'll continue to paint my house, tend my organic garden, and dream as though there is a future, hoping and praying that you are listening. Please, listen deep within yourselves to the knowledge that this is larger than an economic issue; that the vitality of a beautiful portion of this earth--our home-- is at stake.

166

McDonald's

Department of Energy
Richland Operations Office
P.O. Box 550
Richland, WA 99352

Hanford Waste Repository Environmental Concerns

The waste repository selection should consider not only the most geologically stable formation for storage of high level waste but also the utilization of the most cost effective state of the art technological methods for ensuring the wastes are contained in an enviornmentally safe configuration. 2.2.4

Concerns:

Structural stability of the engineered containers containing the wastes is of primary concern. The containers must be able to insure the waste, no matter what form it is in, does not penetrate the container boundary and become released to the environment. 3.3.5.4

The most cost effective means of producing these containers is of major concern. We must ensure that an overdesign to meet unrealistic criteria does not dictate the container cost. However the containers should definitely meet the necessary containment criteria. In other words lets not let unnecessary requirements dictate costs or costs influence criteria. 3.3.5.4

The form the waste is to be processed into should be the most stable known, using most present technology. This should not preclude the investigation of advanced waste form which in the future may be better suited for longer storage. 3.3.5.3

Leaching of the wastes from the container to the ground water may take hundreds of years but is still a major concern of this community. The necessary precautions should be taken to prevent this from happening. Remembering that cost effectiveness to achieve these results is of primary concern. 3.3.5.4

Sincerely,

Gregory Adams
Concerned Tri-Cities Resident

Barbara Clark
P.O. Box 1222
Walla Walla, WA 99362

Rich Holten, USDOE
P.O. Box 550
Richland, WA 99352

RE: DOE Draft Environmental Impact Statement on Hanford Waste

1. The DEIS is unacceptable because the author (DOE) is neither credible nor competent.

The DOE lacks credibility. Recently-released documents (released, it should be noted, not on the initiative of the DOE itself but only as a result of public pressure) show that for the past 40 years the DOE/AEC has both deliberately and accidentally released large quantities of radioactive materials into the air, water, and soil of this region. The DOE/AEC did and does this secretively and without regard for the wellbeing of this area and those of us who live and work here. The DOE was recently fined for illegal, hazardous operation of the current waste site. The DOE's N Reactor and PUREX plant have in the last year actually increased their level of (admitted) emissions. 2.5.5

Thus, the entire history of the DOE to this day shows a knowing disregard for the health and safety of this region. The public cannot be expected to believe that the DOE has suddenly acquired a concern for our welfare. We cannot be expected to have any confidence in a report dealing with the safety of radioactive operations when that report has been prepared by the very DOE which has consistently ignored safety in its own operations.

The DOE lacks competence. The purpose of the DEIS is to evaluate the impacts of certain proposed actions on the environment. Clearly, an organization which would manufacture deadly toxic materials, which would contaminate the air, the water, and the soil with them, and which would do so with no plan for ever neutralizing them, has no understanding of our environment and the interrelationship and interdependence of all life on this earth. It is inappropriate that the DOE should prepare the report on the impacts of certain actions on the environment when by its own actions it demonstrates daily that it has no respect for the environment or understanding of the fact that our own lives are part of it. 2.5.5

The choice of the DOE to author the EIS shows an unbecoming contempt for the intelligence and understanding of the public. The current DEIS should be rejected as untrustworthy and as incompetently prepared, and a new one should be ordered to be prepared by an independent group whose primary concerns are protection of the public and our environment. 2.3.2.5

2. The DEIS fails to consider at least two reasonable alternative actions.

There was no consideration of halting production of toxic wastes, at least pending development of an adequate and safe disposal system. As the cup of deadly wastes is already overflowing, it is astonishing that no consideration was given to the obvious option of turning off the faucet. 2.5.6

There was no consideration of Monitored Retrievable Storage. The proposals considered by the DEIS all boil down to leaving the wastes where they are and covering them with cement so they can't be seen. On the basis 3.3.4.2

167

127

of the DOE's actual (as contrasted with its stated) criteria for selection of a commercial waste dump, no effort is going to be made to neutralize the wastes or otherwise dispose of them in such a way that they will in fact be isolated from the environment during the 250,000 years of their toxicity. That is, the decision being made through the limited options considered in the DEIS is that there is no possibility of safe disposal, or in any event that no effort will be made to develop such safe disposal. This is unconscionable. 3.3.4.2

Monitored retrievable storage would at least not close the door to the possibility that we can somehow contain the damage done by the irresponsible use of nuclear technology.

The current DEIS should be rejected as having failed to consider at least two of the most rational alternatives for dealing with the wastes.

Barbara Clark
BC/b
cc: Office of Nuclear Waste Management
Senator Slade Gorton
Senator Daniel Evans
Representative Thomas Foley
Governor Booth Gardner
US DOE

TESTIMONY OF THE TRI-CITY INDUSTRIAL DEVELOPMENT COUNCIL - DRAFT ENVIRONMENTAL IMPACT STATEMENT ON HANFORD DEFENSE WASTE

RICHLAND, WASHINGTON

JULY 8, 1986

MR. CHAIRMAN, MY NAME IS SAM VOLPENTEST, AND I AM THE EXECUTIVE VICE PRESIDENT OF THE TRI-CITY INDUSTRIAL DEVELOPMENT COUNCIL (TRIDEC) TRI-CITIES, WASHINGTON. WHILE I HAVE NEVER WORKED AT HANFORD, I HAVE BEEN VERY INVOLVED OVER THE PAST TWENTY FIVE YEARS IN HANFORD PROGRAMS. AS A COMMUNITY LEADER I HAVE BECOME VERY FAMILIAR WITH HANFORD'S ACTIVITIES; WHAT THEY ARE AND WHERE THEY ARE HEADED.

OUR MEMBERSHIP IS COMPOSED OF THE AGRICULTURAL, COMMERCIAL, FINANCIAL, INDUSTRIAL AND LABOR SECTOR, THE CITIES, CHAMBERS OF COMMERCE, COUNTIES AND PORT DISTRICTS IN THE TRI-CITIES. OUR MEMBERS ARE DEDICATED TO THE PROMOTION OF THE ECONOMIC AND SOCIAL DEVELOPMENT OF OUR REGION. I AM PLEASED TO BE HERE TODAY TO PRESENT THE VIEWS AND COMMENTS ON BEHALF OF TRIDEC.

168

2.3.2.12

FRANKLY, WE ARE PLEASED TO SEE DOE COMING OUT WITH THIS E-I-S FOR THE DEFENSE WASTE STORED AT HANFORD. WE BELIEVE THE GOVERNMENT HAS THE RESPONSIBILITY TO GET ON WITH SAFE DISPOSAL OF THESE WASTES. WE ARE ENCOURAGED THAT DOE

128

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RECOGNIZES THE NEED FOR ACTION AND IS BEING CANDID, HONEST AND OPEN IN ITS DISCUSSIONS WITH THE PUBLIC. IN THIS REGARD WE ARE PLEASED WITH THE DECISION OF MIKE LAWRENCE, DOE RICHLAND OPERATIONS MANAGER, TO ESTABLISH A BLUE RIBBON CITIZENS ADVISORY COMMITTEE COMPOSED OF A CROSS SECTION OF CITIZENS THROUGH OUT THE STATE. HIS CHOICE OF THE COMMITTEE AND ESPECIALLY OF ITS CHAIRMAN REV. BERNARD COUGHLIN, PRESIDENT OF GONZAGA UNIVERSITY WAS EXCELLENT. WE ARE SURE THIS COMMITTEE HAS PROVIDED DOE WITH SOME EXCELLENT ADVICE AND DIALOGUE. 2.3.2.12

WE WOULD LIKE TO SEE DECISIONS THAT WHEREVER PRACTICAL, MAKES THE USE OF EXISTING FACILITIES TO MINIMIZE COST. HOWEVER, MOST IMPORTANTLY AND WE EMPHASIZE THIS POINT, THE DISPOSAL WORK MUST BE DONE IN A MANNER TO ENSURE WORKER SAFETY, COMMUNITY SAFETY AND THE PROTECTION OF OUR ENVIRONMENT. THESE DECISIONS MUST BE TECHNICALLY SOUND -WE MUST NOT LOOK FOR THE CHEAPEST ANSWER - WE MUST LOOK FOR THE RIGHT ANSWER. 2.2.1

REGARDING DISPOSAL OF SINGLE SHELL TANK WASTE, IT IS EXTREMELY IMPORTANT THAT DOE HAS ALL THE APPROPRIATE ANSWERS PRIOR TO MAKING A FINAL DECISION. IF THE WASTE CAN BE DISPOSED OF SAFELY IN PLACE AND IN ACCORDANCE WITH ALL APPLICABLE WASHINGTON STATE AND FEDERAL EPA ENVIRONMENTAL REGULATIONS, SO BE IT. HOWEVER, IF THE WASTE CANNOT BE DISPOSED OF SAFELY IN PLACE, THEN IT SHOULD BE REMOVED, REGARDLESS OF COST AND SENT TO A REPOSITORY. IN EITHER 3.3.2.1 3.3.1.1

128

EVENT DOE MUST ANSWER THE TOUGH ENGINEERING AND SAFETY QUESTIONS PRIOR TO MAKING A FINAL DECISION.

OUR GREATEST CONCERN IS THAT THIS WORK MAY NOT RECEIVE
2.2.9 ADEQUATE LEVELS OF FUNDING. IT IS VITAL THAT DOE AND CONGRESS MOVE FORWARD AT ONCE WITH ADEQUATE ADDITIONAL FUNDING FOR THE IMPLEMENTATION OF KEY DISPOSAL ACTIONS. WE ARE NOT SUGGESTING THE BEST METHOD FOR DISPOSAL OF THESE WASTES BUT WHATEVER SELECTION IS MADE IT IS MEANINGLESS IF NOT IMPLEMENTED IN A RESPONSIVE TIME FRAME. SPECIFICALLY,
3.1.8.9 WE DO BELIEVE THAT DOE MUST MEET ITS 1995 STARTUP SCHEDULE FOR THE HANFORD WASTE VITRIFICATION PLANT. DOE MUST FULLY SUPPORT THIS MUCH NEEDED FACILITY WHICH WILL PROVIDE THE CRITICALLY NEEDED CAPABILITY TO PROCESS HANFORD'S HIGH-LEVEL LIQUID WASTE.

IN THESE DAYS OF GRAMM-RUDMAN AND RAMPANT BUDGET CUTS, DOE MUST REDOUBLE ITS EFFORTS TO ENSURE THIS AND OTHER HIGH-PRIORITY PROJECTS ARE NOT ALLOWED TO SLIP THEIR SCHEDULES
2.2.9 DUE TO LACK OF FUNDING. TRIDEC OFFERS TO SUPPORT YOU IN YOUR EFFORTS TO SOLVE A SITUATION THAT IS A NATIONAL PROBLEM. ONLY THROUGH THE TOTAL COMMITMENT OF DOE TO A SCHEDULE AND PROPER FUNDING WILL IT BE POSSIBLE TO MAINTAIN A SPIRIT OF CO-OPERATION WHICH HAS EXISTED BETWEEN DOE AND THE COMMUNITY FOR NEARLY THIRTY YEARS.

2.3.2.8 IN SUMMARY WE APPLAUD DOE'S OPENNESS AND THE PUBLIC
3.3.5.4 HEARING PROCESS IT IS CONDUCTING STATEWIDE. THE FINAL OPTION THAT DOE CHOOSES MUST MAKE THE BEST ENGINEERING AND SCIENTIFIC SENSE AND IT MUST ALSO BE RESPONSIVE TO THE

0128

FUNDING COMMITMENT FOR THESE DISPOSAL ACTIONS SO AS TO PROCEED ON A MEANINGFUL SCHEDULE.

ON BEHALF OF TRIDEC WE THANK YOU FOR THIS OPPORTUNITY TO EXPRESS OUR VIEWS.

169

TESTIMONY OF ANDREW R. GARDNER
BEFORE DEPARTMENT OF ENERGY
ON JULY 10, 1986

My name is Drew Gardner. I live at 1212 NE Brazee in Portland. I am a father of two, an attorney and President of the nonprofit corporation, Pandah, Inc., which stands for "People Against Nuclear Dumping at Hanford."

I am here to tell the Department of Energy that its practices at Hanford are the most serious current threat to the prosperity of this city and this region. 3.2.6.1

Your draft Environmental Impact Statement is not acceptable to the people of this region.

The study ignores the socioeconomic impact of your radioactive waste management proposals on the economies of Portland, the Columbia Gorge and the State of Oregon. This, we will not tolerate. 3.2.6.1

You need to understand that any increase in trace amounts of radioactivity in Columbia Basin water or agriculture, even at statistical levels you deem safe, will ruin the economic base of our region for decades. Lost profiles are not figures that are impossible to calculate, for most of us involved in commerce recognize that the loss of reputation translates into the loss of income. Such things are routinely estimated by 3.2.6.1

129

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people with far less resources than the DOE. Your failure to consider such factors fatally flaws all of your Hanford studies.

Second, your recommendation for in-place stabilization is also unreliable. It is based upon an untested technology that strikes the average person as intuitively illogical. Your failures with steel tanks, and your past and current practices of dumping low level waste and transuranic waste into open trenches, make the contamination of Columbia Basin water as inevitable as gravity itself. 3.3.2.1

Covering your mistakes with five feet of new soil is no remedy. The contaminated soil, the leaking tanks and the existing waste must be removed and isolated from our ground water and our river. 3.3.2.1

We will not accept the conclusion that full removal is too expensive. For forty years you've spent countless billions at Hanford, and in so doing have polluted the environment there in a manner which would subject you to criminal liability in the private sector. Even today, as we sit here at this hearing your proposed 1987 budget continues to ignore the environmental problems at Hanford. 3.3.1.2

While you acknowledge that 62% of the nation's entire volume of defense nuclear waste is currently stored at Hanford, your environmental protection budget for 1987 allocates just 1 1/2 percent for Hanford. The area highlighted in red on the chart next to me indicates the proportion of your Environmental

Protection pie allocated for Hanford. We, in the Northwest will not accept a 1 1/2 percent solution for 62% of the problem.

And we will not permit you to open a national dump for waste from all over the country when your 40 year record

2.5.5 demonstrates you cannot even handle the wastes you produce at Hanford now.

The day you rejected your own internal rankings to recommend Hanford for the national dump, you awakened the people

2.2.14 of the Northwest. And we promise you will see us at your hearings, you will see us in the courts and the legislatures, and in the City and County Councils. And we will fight you with every means at our disposal. Which brings me to my final point.

It was Lord Acton who said a century ago "power tends to corrupt, absolute power corrupts absolutely."

You have demonstrated that DOE self-regulation will not work and that our political representatives in Washington, D.C. have given you far too much power. By changing guidelines rather than practices to solve problems, by continuing to dump

2.2.10 highly toxic wastes directly into the ground, by choosing to spend $1 billion in an attempt to disprove that which is so obvious to everyone sitting in this room-that you don't dig a national toxic waste dump of any kind just four miles from the nation's second largest river,-and by failing to adhere to environmental standards routinely imposed on private industry, you have demonstrated an institutional disregard for the safety

129

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of the citizens of this country, and a tendency to experiment with the truth that can fairly be characterized as corrupt.

We, therefore, call for the creation of an EPA superfund, administered outside of the authority of the DOE, to 2.2.9 conduct a thorough independent analysis of Hanford waste contamination, and to effect a comprehensive cleanup that will endeavor to return the ground and water at Hanford to the condition it enjoyed prior to your introduction of radioactive 2.2.11 waste.

And we call upon our federal government to withdraw from the DOE any further authority over nuclear waste management 2.2.13 at Hanford, placing such responsibility and authority with the Federal EPA and the Washington and Oregon Departments of Environmental Quality.

Last weekend, I re-read a document that has surprising relevance to this proceeding I'd like to quote a passage from it now:

> "Governments long established should not be changed for light and transient causes. But when a long train of abuses, pursuing invariably the same object, evinces a design to reduce the people under absolute despotism, it is their right, it is their duty, to throw off such government, and to provide new guards for their future security."

These are the words of Thomas Jefferson contained in our country's Declaration of Independence. You, like King George, have committed a long train of abuses. We, like Jefferson's followers, won't sit still for it any longer.

171

And, so I close with a warning given you on behalf of the people of Oregon.

We will not surrender our environment.

We will not surrender our state sovereignity.

We will not surrender our democratic values and we will not surrender our children's future to the tyranny of a self-regulated bureaucracy like the Department of Energy.

Thank you!

5

(no comment identified)

172

21 July 1986

Rich Holten:

I am absolutely against employing Hanford as a waste dump. 2.1.1

I have been following the nuclear situation for some years and with a great deal of concern. Men have overreached themselves on this one; they're handling nuclear materials they don't have the responsibility or means to adequately assure safely. There have been far too many near accidents, accidents, construction flaws, human errors and political or management underhandedness to allow the public any confidence in the nuclear industry.

I've subscribed to The Lewiston Morning Tribune for the last couple of years. Although I clip some articles regarding the various nuclear plants, waste sites and related issues, I've saved all articles concerning Hanford. 2.5.5 I've quite a file full and can see for myself that Hanford has a lousy record. Oh yes, there's the occasional PR piece which attempts to commend Hanford, but those don't stack up against the many more articles revealing Handford's problems and shutdowns.

- 1 -

130

130

I could tediously list many reasons why nuclear storage is dangerous-- certainly including Handford's: basalt formations, leakages and the proximity to the Columbia River, past history of contaminate emissions and present related health hazards, etc. etc. And that with the exception of the Richland area (it's a national shame what people will risk for the sake of having work), no one wants Hanford as a national repository; indeed, a great many of us want Handford shut down altogether, as I do.

2.1.1

2.5.6

There are political and business fortunes to made in the nuclear industry. Such personal and corporate ~~profits~~ don't realistically, nor would it seem ethically, concern themselves with the thousands of years of terrible risks involved with nuclear waste storage. Short term precautions and lip service are criminal in view of environmental and human abuse. You cannot justify contaminating air and water, even the soil of our crops, nor our communities along the highways where nuclear wastes would be transported.

3.4.2.2

In the name of "defense" won't cut it when the nuclear industry sanctioned by the government puts us at a more immediate risk than those we're supposedly defending ourselves against. In the name of economical or technical "progress" won't cut it when we die from the hazards surrounding it. If we pursue this suicidal fixation with the nuclear industry and its deadly wastes, then the truest statement has already been made: "We have met the enemy and he is us."

Respectfully,

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WM DIVISION
6130

Victoria A. Seever

473 S. Almon #3
Moscow, Idaho 83843

173

July 19, 1986

We feel strongly that the national
dump site should not be located
2.1.1 at Hanford. Input should not be
3.3.1.1 strictly at the national level,
Washingtonians should have some
say in the matter.

Sincerely,
Bonnie Rathod
Andrew Beasley
BONNIE RATHOD
ANDREW BEASLEY
615 S. Washington
Port Angeles, WA.
98362

3644 N.E. 46th ave
Portland, Oregon
97213
July 19-1986

Dear Sirs

We received your letter here recently and wanted to write and let you know our thoughts as we can't attend or rather could not attend when held.

We have been concerned about the matter of proper nuc. waste for years and we feel it should be transported out of the over to the desert over in Nevada as this area will not be 3.3.5.2
used in the future, & this use could be authorized by your group or whoever in control there we feel this would make a good site. There are no rivers

3.3.5.2

There or ground water problem either. Large deep holes could be dug and lined with thick concrete walls and the material could be placed in these holes where it should be harmless for all time. We have studied atomic energy and its effect and we feel this is the most safe way to handle the waste. Please consider this idea and let us know what you think. We believe good solutions should be had soon so people are no longer in danger. Many feel that the testing of atomic bombs over in Nevada should stop also so please see what you can do to end these also. This is a wasteful practice that should stop. Atomic power should be used for peaceful uses only and not in bombs.

Rodger F. Anderson

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JUL 23 1986 0133
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CITY OF
PORTLAND, OREGON
BUREAU OF WATER WORKS

Dick Bogle, Commissioner
Edward Tenny, Administrator
1120 S.W. 5th Avenue
Portland, Oregon 97204-1926

July 17, 1986

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JUL 23 1986 0133
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Mr. Jerry White
United States Department of Energy
Mail Stop FED/706
Post Office Box 550
Richland, Washington 99352

Subject: Comments on Draft EIS for Disposal of Hanford Defense Wastes

Dear Mr. White:

The Portland Bureau of Water Works is very concerned about the Draft Environmental Statement for the Disposal of Hanford Defense, High-Level, Transuranic, and Tank Wastes. Because of our late notification of the recent public hearing in Portland, we were unable to schedule a time to present these concerns in public. Although the text of our prepared comments was submitted to you, we would like to take this opportunity to reiterate our concerns and offer a proposal for addressing these concerns.

Briefly summarizing our previously submitted comments, the Columbia River system is the heart of the region's water resources. In light of the porous and complex geology of the area, disposal of nuclear wastes at Hanford appears to have the potential to permanently impact this valuable water resource. Radiological contamination of the Columbia River would not only limit available options for future water supply sources for the Portland metropolitan area, but may also threaten the long-term viability of existing groundwater water supplies which are influenced by the river. 2.1.1 3.2.4.1

It is, therefore, imperative that the EIS thoroughly address potential environmental and economic impacts to water resources downstream of the Hanford site. 3.2.4.1

We strongly recommend that DOE conduct a study of potential off-site impacts of alternatives that include Hanford as a permanent disposal site. This study would include, though not especially be limited to, analysis of a worst case scenario of radiological contamination of the Columbia River and resulting environmental and economic impacts to existing and future water supplies. Evaluation of existing water works facilities and future water needs of the Portland metropolitan area would be key elements in the study. 3.2.4.1

Such a study will no doubt be a major undertaking. For comparison, we are currently negotiating with the U.S. Geological Survey for the development of a

computer model of the Portland wellfields. We anticipate that the study will have a total cost of $500,000 and require about three years to complete. The study is limited only to the hydrology and geology of the area influenced by the wellfield and does not even begin to address water quality issues and economic considerations. The study we are proposing that DOE undertake would, in most cases, take advantage of existing, available information and, therefore, we see the Portland Water Bureau as being actively involved in the study.

3.2.4.1 Regardless of the approach or scope for the study of downstream impacts, our concerns must be considered in the evaluation of Hanford waste disposal options. We are the largest purveyor of drinking water in Oregon, providing drinking water to one-third of Oregon's population. Even the potential for permanent contamination of current or future water supplies of the Portland metropolitan area represents a threat to the long-term viability of the region.

We very much want to be involved in the DOE's ongoing EIS process. We would be glad to meet with you and your staff to further discuss our concerns and proposal for further study.

Sincerely,

Edward Tenny
Administrator

ET/MK/sa

cc: Mayor Bud Clark
Commissioner Dick Bogle
Commissioner Mike Lindberg
Commissioner Mildred Schwab
Commissioner Margaret Strachan
Governor Victor Atiyeh
Senator Mark Hatfield
Senator Bob Packwood
Rep. Jim Weaver
Rep. Ron Wyden
Rep. Les AuCoin
Rep. Bob Smith
Rep. Denny Smith

City of Lewiston
IDAHO'S ONLY SEAPORT
POST OFFICE BOX 617 LEWISTON, IDAHO 83501
(208) 746-3671

July 21, 1986

Mr. Rich Holten, EIS
U. S. Department of Energy
Richland Operations Office
P. O. Box 550
Richland, WA 99352

Dear Mr. Holten:

The City of Lewiston appreciates this opportunity to provide comment on the alternatives being considered for the permanent disposal of defense wastes stored by Hanford. While not addressing the permanent disposal site, we would like to focus our comments on the transportation of the waste to the site. 3.4.2.2

Our concern centers on the use of Highway 12 from Lewiston to Missoula, Montana for the transportation route. As you know, Highway 12 is a scenic and historic travel way. As it follows the Lochsa River, it winds its way through the Bitterroot Mountains on a two-lane highway. The potential danger is clear as one considers the delicate balance of nature of the mountains, river and valley. The Valley's lifestyle, both socially and economically, are tied to the outdoors. Any disruption to this balance will have severe implications to Lewiston and the Valley. 3.4.2.2

We strongly discourage the use of Highway 12 between Lewiston and Missoula as the transportation route for the relocating of defense waste to its permanent location. 3.4.2.2

Thank you for your consideration.

Sincerely,

Gene Mueller
Mayor

135

July 14, 1986

R.A. Holten/EIS
U.S. Dept. of Energy
Richland, Operations
P.O. Box 550
Richland, Wa. 99352

Dear Mr. Holten;

2.1.1 The decision to consider Hanford as a permanent nuclear waste dump is not in alignment with the Nuclear Waste Policy Act which calls for finding the technically most suitable site. Hanford came out last. Why is Hanford on the list? I assume because there is such a large stockpile of waste there already and it would be the least expensive, least controversial site.

The purpose of the Hanford hearings in Portland on July 10 was to gather testimony concerning the military wastes contained there. Hanford is already leaking nuclear waste materials that are ending up in the Columbia River. I am opposed to any more wastes of any kind being dumped there. I am concerned about the

3.4.2.2 transportation of these nuclear wastes on highways and railways. I reccomend that:

2.2.9 1. The U.S. adopt a policy of nuclear responsibility. Money, as much as necessary, be allocated to cleaning up the nuclear wastes that have accumulated in the last 40 years at Hanford. Hanford would now become the center for Nuclear Clean-up Responsibility. Research would be transformed from that of military nuclear technology to that of responsible disposal. The N-Reactor and the Purex plant would be shut down.

2. The U.S. challenge the Soviet Union to respond in like manner and to join hands in clean-up research.

2.5.6 3. That the U.S. determine that other sources of energy must be developed to replace nuclear energy. That this is done in a timely manner - e.g., phase out nuclear energy production in the next 5 years. This action would reflect the U.S. understanding that nuclear products are not worth the hazards that they incur.

3.3.5.2 4. That all states that have nuclear wastes be involved in the clean-up process. That no one site be determined as a depository.

I believe that it is possible to clean-up after ourselves and it is our obligation to future generations to do so. I do not believe that depositing all the wastes in one area of the U.S. is the most responsible solution to this huge problem. We need to stop producing it in the first place and develop alternatives to nuclear products. 2.5.6

Sincerely,

Ruth Riordan

Ruth Riordan
2347 N.E. 8th Avenue
Portland, Oregon 97212
(503) 284-8841

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177

136

P. O. Box 462
Shaw Island
Washington 98286
July 22, 1986

R. A. Holten/EIS
U.S. Department of Energy
Richland Operations Office
P. O. Box 550
Richland, Wa.

Dear Mr. Holten:

Enclosed is a copy of my remarks at the hearing of your department on July 15th, afternoon session, at the Federal Building in Seattle.

It is my hope that the public outcry and concern about the disposal of nuclear wastes will prompt rethinking and a totally new assessment of both siting the present supply of wastes, the techniques of storage and, most importantly, the stopping of production of materials we simply are unable to handle with safety to the Earth or its creatures. 2.5.6

Very truly yours,

Frederick E. Ellis

FEE/s
encl.

178

Comments by Frederick E. Ellis, Ph.D.
Public Hearing, Seattle, Wa.
U.S. Department of Energy
July 15, 1986
2-5 p.m.
Federal Bldg.

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The study of history, if nothing else, shows the great contributions of man as well as his unbelievably stupid mistakes. In something over six-thousand years of recorded history we have reached surely the zenith of insanity - churning out vast quantities of highly toxic nuclear waste under the guise of "defense" against the bogey-man of the Soviet Union; a nation, like our own financially broke and whose populace, like ours, has no wish for war. Slowly, I think, the body politic in this country is getting on to this myth without which the output of nuclear weapons would grind to a halt. The deception of the public by the military and the Department of Energy is as mind-boggling as it is self-defeating.

Reading the Environmental Impact Statement, a three-volume compendium of turgid prose and highly technical data stretches to the breaking point one's patience. The glaring omissions are evident and have already been dealt with by previous speakers. Noteworthy is the Alice-in-Wonderland approach to the issue of the siting of nuclear waste: As the Mock-turtle observed, "You are guilty, now let's have the trial!" Now the Department of Energy is telling us, "We have selected the site and the three alternative methods of disposal; now let's hold a public hearing!" This procedure is a betrayal of public confidence. 2.5.5

Presently accumulated waste must be disposed of as prudently as the best scientific talent can devise accompanied by total cessation of the production of 2.2.1

2.5.6 more plutonium and its attendant wastes. As the only space ship we occupy, namely planet Earth, we have no moral right to pollute and destroy it and its biota. Think of the Earth as your home. Where do you stow x gallons of high-octane fuel in that home; in the kitchen back of the wood-burning stove? in the living room near the fireplace? in the bedroom? The question is silly. You don't store it anywhere in either your own dwelling or the planet you inhabit.

2.2.1 So far politics has dominated the whole problem of nuclear waste disposal. Conspicuously lacking in the Department of Energy's management of the problem has been a frank, open, non-political, rigorously scientific and objective attack. Dishonesty, hoodwinking of the public and deception have marked the department's conduct of its business. Like NASAA, the DOE has lost what public credibility it might have had.

Since the selection of Hanford as a dump site has been a political decision, the abolition of Hanford as a dump site must be political - at the ballot box. I call on the body politic to repudiate, at the voting booth, the present administration and its Department of Energy and, in turn, support representatives in the Congress, the Senate and the White House who will be sensitive to widely expressed public concern and legitimate fears.

218 S. Wasson
Coos Bay, OR 97420

March 28, 1986

Jerry D. White
U.S. Dept. of Energy
Waste Management Div.
P.O. Box 550
Richland, Wash. 99352

Dear Mr. White:

As a concerned citizen I would like to see the nuclear waste depository site for the very high, long-term nuclear waste located in a stable location far from humanity, and as deep as possible, such as the deserts of Texas. This means we need to complete the building of the out west plant that converts the waste into solid form immediately. The present method of liquid in tanks seems dangerous. 2.1.1 3.3.1.1

If the locals near Hanford are not opposed, the burial of low level waste on sight seems feasible. 2.3.1.13

Thank you for this opportunity to give my views, and also for providing the comprehensive series of public meetings on this important issue. Mr. Dick Wilde's recent presentation was very interesting. 2.3.2.8

Sincerely,

Jerrold Hall

cc: Rep. Mike McCracken
Sen. Bob Packwood

179

R. A. Holten / EIS
U. S. Department of Energy
Richland Operations Office
P. O. Box 550
Richland, Wa. 99352

703 Beacon
Yakima Wa. 98901
July 18, 1986

Reference: Draft Environmental Impact Statement
Disposal of Hanford Defense High-level, Transuranic and Tank Wastes

Dear Sir,

Defense high level wastes represent 98% of the nation's total volume of high-level waste and 13% of the total high-level radioactivity. The purpose of permanently disposing of existing and future nuclear defens waste is to provide for an appropriate level of protection of the public health and safety as can reasonably be expected. All practical means to avoid and minimize enviromental harm should be taken.

It is understood that the final decision on several aspects of the waste disposal plan may be delayed pending further research and development. In this way current actions would not preclude future technological developments.

The first step in analyzing the alternative disposal methods is to determine the short term effects from retreival, transportation and placement of wastes into the alternative permanent storages.
The Geologic Disposal Alternative has the highest possibility for occupational exposures primarily due to the longer implementation of this alternative. The other alternatives have a much lower occupational exposure but all are far less than naturally occuring radioactive sources
The potential for radiological accidents is generally the same as operational accidents and there is no significant difference between the different alternatives.
The nonradiological impacts - injuries, illnesses, & fatalities - in the Geologic Disposal Alternative are 4 to 8 times as many due to increased man-hours and travel distance required for implementation. All other alternatives are about equal.
Natural resources are not in short supply and are not significant on a national scale since they are required over a 15-30 year Period. Geologic Disposal Alternative requires about five times more energy and materials then the other alternatives.
Regarding ecological impacts the Hanford sites are already distrupted and temporary further disruption of plant and animal communities would result from all alternative implementations. The Geologic Disposal Alternative is the most disruption but there is little significant difference between any of the alternatives.
The selection of any of the alternatives would not affect current land uses or adversly affect the local Tri-City economy

CONCLUSION: The Geologic Disposal Alternative has the highest possibility for occupational exposures and nonradiological impacts primarily due to the longer implementation of this alternative. In all other short term impacts there is little significant difference between any of the alternatives with little to recommend one alternative over another.

The second step in the analalysis of the alternative disposal methods is to determine the postdisposal impacts (Long term impacts up to 10,000 years).
Chemicals are intertwined with radioactive wastes and could be leached from tank wastes into drinking water and ground water but would not be adversly effected off site. Even without active institutional control, projected environmental impacts are small with little to recommend one alternative over another with respect to long-term impacts on public health and safety.

Leached wastes due to infiltrated precipitation, even with double the present average annual precipitation (more rapid dissolution), would result in doses that are so small that no health effects are projected. Even the radiological consequences of a glacial flood would would be of little significance.
The consequences of partial or functional barrier failure, along with wetter climates would only produce impacts slightly above background radiation levels except for the no disposal alternative.
The risk from human intrusion is low where passive institutional control are effective. Individuals would have to ignore the public records, and the barriers and warning markers in an intentional manner to produce any meaningful impacts. Even under the full garden scenario doses are only slight for all alternatives except for the no disposal which could result in fatal groundwater doses within a few years. The potential for chemical contamination would also exist.

CONCLUSION: The analysis of long term impacts indicates no major difference among the three active disposal cases, but with the No Disposal Alternative and loss of government control the results of human intrusion could be unacceptable. The release into the groundwater was found unacceptable compared to EPA drinking water standards, as much as 1000 times the acceptable limit in some scenatios

Although safety is paramount, the cost criteria of the alternatives must also be considered.
Required natural resources are not in short supply and are not significant on a national scale when required over a 15-30 year Period. The Geologic Disposal would, however, require five time more energy and materials than the other alternatives.

180

(no comment identified)

138

(no comment identified)

138

The overall cost of the No DisPosal Alternative at first aPPear to be the lowest, $1.8 billion, but continued costs of $1.3 billion Per century could actually make it the most exPensive. The 9eologic disPosal Alternative, totalin9 about $11 billion, is four times more exPensive than either of the other two alternatives.

CONCLUSION: Although the 9eologic DisPosal alternative removes 98% of the radioactivity and shows the lowest lon9 term releases to the enviroment, the increasd short term oPerational exPosure to workers and the Public, and the vast increased costs are not justifiable on the basis of increased Public safety.
With continued onsite management and monitorin9 the No DisPosal alternative would be accePtable in terms of safety but lon9 term costs could become Prohibitive. The No DisPosal alternative would not solve the disPosal Problem, but would simPly PostPone dealin9 with Permanent waste disPosal to future 9enerations. This alternative is essentially the continuation of Present waste management Practices and is therfore not accePtable.
The In Place Stabilization Alternative calls for immobilization and stabalization of waste and relies on a Protective barrier and marker system. In view of the limited 9eologic Protection Provided for the most dan9erous radioactive wastes this alternative would be unaccePtable in terms of Public safety. With only a sli9ht additional cost, increased Public safety can be achieved thru 9eologic isolation.
Finally the Referance Alternative results in low releases and exPosure at a reasonable cost consistent with the Public health and safety. Most imPortantly this alternative mandates all new and redily retrievalbe defense wastes to be disPosed of utilizin9 9eologic rePository isolation.

RECOMENDATION: I recomend that the Preferred alternative chosen for the disPosal of Hanford defense Waste be the Reverence Alternative.

3.3.3.1

SPecifically the followin9 management elements should be utilized to deal with defense wastes:

Existin9 Tank Waste:
Sin9le cell tanks - The older sin9le-wall tanks contain waste that would re9uire sPecialized, costly, and Potentially hazardous recovery oPerations. Difficult retrieval and lower radioactivity su99est that sendin9 it to a deeP rePository after immobilization in 9lass may not be justified when the risk and cost are wei9hed a9ainst benefits.
Near term risk and costs involved in disturbin9 wastes that are currently stable and that would be hazardous to retrieve cannot be justified simPly for the added safety of 9eologic isolation.
The Waste Solidification Pro9ram be9un in 1965, should be continued to reduce the volume and mobility of li9uid waste. An EvaPorator-crystallizer should be used to extract the water which will be disPosed of in under9round cribs. The remainin9 slurry containin9 salts and radioactive mixtures are treated and turned to 9rout then returned to the tanks. Finally the tanks are filled with 9ravel and sand to Prevent dome collaPse and the tanks are sealed.
The Barrier & Marker System is utilized to isolate waste from external li9uids and ecosystems. A CASS surveilance in addition to manual monitorin9 for the tank temP, levels, and radioactivity, and surroundin9 soils should continue to be used until all tanks are isolated.

Double-shell tanks - Waste retreived by hydraulic sluceing is seParated. The hi9h-leval waste is vitrified and Placed in a 9eologic rePository. The low-level waste is concentrated by evaPoration and converted to 9rout and disPosed on site. The final disPosition of the tanks would be similar to the sin9le wall tanks - filled with 9ravel and sand and sealed. The Barrier & Marker System is utilized to isolate waste from external li9uids and ecosystems.

Future tank wastes:
Solids and li9uids would be seParated with Cesium bein9 removed from the suPernatant. The slud9e and cesium is Processed in the vitrification Plant and Placed in a 9eologic rePository. The li9uid would be converted to 9rout and disPosed on site.

Strontium/Cesium:
Low volume but contains 60% of all hi9h-leval defense waste radioactivity. Current beneficial leasin9 for medical PurPoses would continue. Cesium is extracted from li9uid waste by ion exchan9e and converted to a solid. Continued stora9e in water basins until 1995 then it would be encaPsulated and Packa9ed into canasters and Placed in 9eologic rePository.

Retreivably Stored & Newly Created TRU Solid Waste:
TRU is 10% of DW volume but less than 1% of radioactivity.
Remote handled TRU handled in a sPecial Waste Receivin9 and Processin9 Facility and sent to WIPP. Contract-handled waste are sent to WIPP without reProcessin9. All waste <100 nCi/9 is treated as low-leval waste and disPosed on site. A Barrier & Marker System is utilized.

Previously disPosed-of Pre 1970 TRU solids:
The 300 area sites would be retrieved and Processed for WIPP. The 200 area sites would be stabalized and comPacted if necessary and a Barrier & Marker System would be used.

TRU Contaminated soils:
Grout would be injected for subsidence control and a Barrier & Marker System would be used.

Sincerely,

J. Daniel Kinney Jr.

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181

(no comment identified)

CHET ORLOFF
3315 Northwest Savier Street
Portland, Oregon 97210

July 21, 1986

Mr. R. A. Holten/EIS
U. S. Department of Energy
Richland Operations
P. O. Box 550
Richland, WA. 99352

Dear Mr. Holten:

2.1.1 On behalf of my fellow Oregonians, I wish to add my own few words, expressing strong resistance against the receipt and storage of nuclear wastes, to the many and eloquent words you have already received.

I full realize, have long studied the matter and being the brother of a nuclear physicist, the problem the Department of Energy and, indeed, our nation face with the problem of nuclear wastes. The issue, of course, is much greater than that with which you and your colleagues are facing and for which you must arrive at an answer. That issue being how we produce and conserve energy in this country. However, all of us do face an intense regional problem and that is the matter I wish to express my belief to you on.

2.1.1 Very simply, from most (I'll admit, not all) available evidence -- from the Federal government, private industry, and public institutions, it is readily apparent to the objective reader that to continue to collect and store nuclear wastes on the Hanford Reserve is folly. Worse than that, it is criminal -- if not considered so now, it will certainly be held so by future generations.

I predict that should it be decided to build up, rather than curtail, Hanford's storage capability, the Federal government will have a crisis of major proportions on its hands. I predict that the amount of opposition to increased storage will grow at a rate and to a level that will alarm even the most dedicated practioner of civil disobediance. And I predict that should it be decided to add to Hanford's storage capability, circumstances will soon force, if not require, a reversal of that decision.

Chet Orloff

182

WASHINGTON STATE SENATE
SENATOR AL BAUER
49th District

July 15, 1986

DEPARTMENT OF ENERGY
Operations Office
Waste Management Division
Richland, WA 99352

ATTENTION: R.A. Holten:

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT

This letter serves as my commentary on the Draft Environmental Impact Statement on the disposal of defense waste at Hanford.

I am concerned that the only opportunity for public input on the issue of defense waste disposal is during the 120-day comment period on the Environmental Impact Statement. The problem with the public-comment time frame relates to the failure of the impact statement to select an option for the disposal of defense waste. Instead, the statement merely lists four alternatives for disposal. The final impact statement, which is scheduled for release in the summer or fall of 1987, will select an option that excludes a public-comment period. I feel it is extremely short-sighted to take comments on four options but not take comments on the final option selected for implementation. The public should have the opportunity to comment on the selected proposal the Department of Energy intends to put into effect. 2.3.2.7

I am also concerned about the inter-relationship between defense waste disposal and the commercial repository program. It appears to me that the two programs are inter-related. However, the Department maintains they are separate, thereby leaving it to the public to decipher any impact decisions one program may have on the other. I firmly believe the Department should address these possible impacts in the Draft Statement. 2.1.3

I do not believe Hanford is a suitable site for a high-level nuclear waste repository because of its geologic and hydrologic uncertainties. I support a referendum to the citizens of the State of Washington on this sensitive issue. If some, or all of the Hanford defense wastes are disposed of in a repository, I would also oppose disposal at their present site. 2.1.1

Education, Vice Chair · Ways and Means · Rules · Agriculture
401-C Legislative Building
Olympia, Washington 98504
(206) 786-7696

13611 N.E. 20th Avenue
Vancouver, Washington 98686
(206) 573-1852

3.3.4.2

For the past three or four years I have been in discussion with Rep. Dean Sutherland on this issue and share Rep. Sutherland's opinion that a Monitored Retrievable Storage system is the preferred option. I feel strongly that the people of the State of Washington should have the opportunity to comment on an MRS system.

Please enter these comments in your records.

Respectfully,

AL BAUER, Senator
STATE OF WASHINGTON

AB:ms

J. RICHARD NOKES 14650 S.W. 103rd AVE. TIGARD, OREGON 97224

July 21 1986

Michael J. Lawrence
Manager
Department of Energy
Richland Operations Office
PO Box 550
Richland WA 99352

Dear Mr. Lawrence:

As a member of the Northwest Citizens Forum I herewith submit my observations on the Department of Energy's draft environmental impact statement concerning Hanford's defense nuclear waste. Not being a scientist, I have refrained from trying to make any scientific criticisms and have instead confined myself to a layman's views.

As you will note in my report, I am very appreciative of the splendid cooperation of Jerry White and others of DOE who have baby-sat the Forum so patiently. On occasion they must have been driven close to frustration by the questions and comments of Forum members and public participants. But they kept their cool under the hottest fire. A DSC with oak leaf cluster would be appropriate.

Sincerely,

183

(no comment identified)

J. RICHARD NOKES 14650 S.W. 103rd AVE. TIGARD, OREGON 97224

citizens forum report

From J. Richard Nokes
Member NW Citizens Forum on Defense Nuclear Waste Disposal

To: Rev. Bernard Coughlin
Chairman, Northwest Citizens Forum

U.S. Department of Energy

Subject: Personal critique, DOE DEIS Defense Nuclear Waste Disposal

Because the Northwest Citizens Forum was invited to critique the DOE draft environmental impact statement on disposal of Hanford defense high-level, transuranic and tank wastes, and because DOE will issue subsequent draft EIS on disposal of wastes from commercial reactors and on selection of a site for permanent disposal of nuclear wastes, I confine my remarks to the draft environmental impact statement concerning methods of disposal of defense nuclear wastes.

General Statement

Defense nuclear waste has been accumulating at Hanford for more than 40 years, and while it has caused minimum hazard to the environment, Congress and the people generally agree a process should be started looking toward permanent safe disposal. Other nations, notably France, are ahead of the United States in selecting permanent disposal techniques. Even China, with ten reactors and two more being constructed, has begun a process to select a system of permanent disposition and has been in consultation with French engineers in Beijing on this subject.

The challenge to the Northwest Citizens Forum has been to advance this process by analyzing and criticizing the draft environmental impact statement issued by DOE last April 1, and to insure that northwest residents generally have opportunity to do the same.

A major complication has been the timing of the announcement of the selection of three finalist locations for the first permanent site for a nuclear waste repository, one of the three being Hanford, Washington. This announcement came close on the heels of the first meetings of the Citizens Forum and has caused such an adverse political and public reaction in Washington and Oregon that the DOE's statement on military nuclear waste has been almost completely obscured. Public hearings on the subject have on occasion developed into virtual public hangings of the DOE, focusing little on the specifics of the DEIS on military nuclear waste. This has been most unfortunate.

2.2.14

In my view, any plan for disposition of the accumulated and

2.2.3

141

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future defense nuclear and chemical waste should focus entirely on public safety for generations to come. Financial cost should be secondary to environmental and health costs. Ten billion dollars in expenditure if it provides maximum long-term safety is preferable to a two billion dollar expenditure that might provide lesser assurance of long-term safety. When we are talking of 10,000 years or more, ten billion dollars would be a small price.

2.2.3

Specific Considerations

With exceptions, I agree with the Oregon position released by Gov. Vic Atiyeh and presented by David Stewart-Smith to the recent meeting of the Citizens Forum in Hanford, and with the draft concensus position of the alternatives sub-committee of the Forum at the same meeting. The two are compatible.

A. I agree that Option 1 (vitrification and geologic disposal) in the DOE DEIS should be the preferred method of disposition. All high level waste (HLW) should be retrieved, glassified, packaged in stainless steel cases surrounded by concrete and permanently deposited in a deep repository wherever that may be. DOE estimates this would be 98 percent (by activity) of the waste.

3.3.1.1

B. Transuranic waste should go to the waste isolation pilot plant in New Mexico. This includes pre- and post-1970 TRU waste.

3.1.3.25

C. I am not convinced after reading the report, listening to testimony and observing on-site testing of engineered barriers that shallow burial will ever be feasible. All single shell tank waste, even though it is in cake or sludge form, should be retrieved and disposed of in deep geologic repositories. The DOE draft EIS indicates safe retrieval technology does not exist, so additional research should go forward as Oregon recommends. It should be noted that Washington's draft statement (page 2-7, July, 1986) suggests a possible solution. Mike Lawrence in his statement to the forum via Father Coughlin July 3 also suggests a possible method and mentions the final EIS will address the various possibilities of complete clearing of single-shell tanks.

3.3.1.1

3.3.5.3

Lawrence suggests that adding a sealant around and under the single-shell tanks is not feasible at present.

3.5.1.8

In general, the barrier development program has not yet provided assurance that shallow burial would over the long term be a safe technique. Intrusion by man, animal species, plant rooting and decay, and natural disasters such as earthquake and climatologic change over the thousands of years are dangers that come to mind. Markers on the site over such a long period could be obscured, removed or become incomprehensible to man in millenia to come.

3.5.1.7

D. Strontium and cesium wastes double encapsulated in

184

141

stainless steel cylinders should continue to be stored in water basins until a repository is available after which they should be packaged and shipped to a future geologic repository. 3.1.2.5

Two other Oregon suggestions should be heeded: 1--DOE should comply with federal and state requirements on chemical and low-level waste handling; 2. Congress should be requested to establish funding on a perpetual basis for the disposal of military waste either in the Defense Department or Department of Energy budget. 3.1.6.1 2.2.9

Summary

While the in-place stabilization and disposal alternative and the reference alternative provide cheaper means of disposal of defense nuclear waste than the geologic disposal alternative, I am of the opinion that dollars don't count; safety does. Thus the geologic disposal alternative should be preferred. 2.2.3

Additional comments:

The specific criticism of the DEIS by Washington State should be answered forthrightly in the final EIS.

The question raised by Robert Alvarez in May and discussed in various letters since concerning criticism of the French vitrification technique should be answered in the final EIS. While DOE has indicated in a communication of June 5 from R.D. Prosser to Alvarez that the complete packaging of vitrified HLW would eliminate any danger of breakdown of glassified HLW, this does not appear to be the final word.

DOE also should deal in the final EIS (as it did in a communication received by Forum members) with questions raised by Washington State Senator Bailey concerning the capacity of the first repository for all the Hanford nuclear waste.

I compliment Jerry White and all the other DOE staff members who have met with the Citizens Forum and have patiently responded to all the questions, some of them quite barbed, from Forum members or the public. I am afraid that on occasion DOE has been treated as public enemy no. 1 instead of as a responsible agency doing its best to solve a problem that began in wartime 43 years ago. 2.3.2.8

This personal report is written prior to the August meeting of the Citizens Forum in Seattle. I reserve the right to amend it if subsequent information seems to require it.

J. Richard Nokes

July 21 1986

185

142

July 28, 1986

Rich Holter/EIS
U.S. Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Wash. 99352

I received the announcement of your public hearing July 15, 1986 "to provide testimony on alternatives for permanent disposal of defense wastes stored at Hanford". Unfortunately my meeting schedule did not allow time for attendance nor verbal testimony at the hearing. However, I am sending my comments for a serious review.

1) The above statement in quotes excerpted from the 'concerned citizen' letter is flawed. It makes the Hanford site a foregone conclusion and in essence says it is the only method of disposal that is open for discussion. The Government selected the Hanford site before much was known about nuclear waste, radiation and resultant damage to humans and the environment. Creation of jobs often times obscures the desire to investigate the side effects and, in this situation, it was true and still is, according to the reports I read from the residents of the Tri-city area. These are three factors. The fourth factor is the general apathy which existed 45 years ago and still exists today. It sets the stage for powerful organizations like DOE to ride rough shod over everyone. It is my suspicion that someone or a group is profitting by such actions. Suspicions are directed to DOE personnel, the administration or private interests. 2.5.5

2) If what I read in the paper, is only partly true, your organization is hardly one to be trusted with such a critical decision. The reports included DOE allowing the disposal of high radiation waste in a low radiation site. The scuttling and destruction of data that put Hanford at the top of the list rather than the bottom, is unforgiveable. Where has honor, trust, and ethic gone? DOE has a massive job to improve its public relations. And there I make the assumption it wants to. The fact that the letter states "defense wastes" (including high and low radiation) is all inclusive and is a strategy too often used of using generic terms. 2.5.5

3) The Governor of the State of Washington is proposing a ballot at the general election in the fall to get the citizen reaction. I fully support it. At this point I am not aware of what influence that will have when the decision is made, but it behooves all of us who will become more outspoken on environmental issues ro speak out and convince the electorate to vote against nuclear waste storage in Washington State. A talk of secession might shock the other states that we do not intend to let the administration have its way. 2.1.1 3.3.1.1

4) Your organization is part of what I term - the fourth government. The Federal, State and Local Governments of the people are the first three. The fourth is made up of bureaucrats who write the millions of pages of rules and regulations without input from the citizenry. It is this group that puts itself above the needs of the people who pay their salaries. It is this group who is party to deals made with self-interest groups. And it is this group that has created the situations of lack of trust. And we, as the apathetic electorate, have had a major part in making it happen - not knowing how to stop the juggernaught. 2.5.5

As you have already surmised, I am totally opposed to the Hanford disposal site. The only reason I can see that the world disposal site has to be in the United States, is that some persons believe future processing will recover more product, making it necessary to keep the potential out of the hands of others. Otherwise, there are many more desolate areas in the world which would be more suitable. 2.1.1

I can only assure you that I will speak against the Hanford disposal site and will not support the DOE.

Carl R. Johnson
4735 35th Avenue N.E.
Seattle, WA 98105

cc Governor Booth Gardner

DOE Richland Operations Office
ATTN R.A. Holten/EIS
Waste Management Division
Richland, WA 99352

8 July 1986

p.1/3

I wish to raise the following concerns regarding the DOE's draft Environmental Impact Statement entitled 'Disposal of Hanford Defense High-Level, Transuranic, and Tank Wastes':

1) THE DEPT. OF DEFENSE AND DEPARTMENT OF ENERGY SHOULD BE REQUIRED TO MEET AT LEAST THE MINIMUM SAFETY STANDARDS REQUIRED OF COMMERCIAL REACTORS, BOTH FOR THE OPERATION OF NUCLEAR FACILITIES AND THE DISPOSAL OF NUCLEAR WASTES. I believe it is the responsibility of the United States' Federal Government to protect its citizens from internal as well as external threats to their health and well being. I therefore cannot understand why the United State's Department of Energy (DOE) consistently operates using lower standards of safety than are required by the federal government for commercial nuclear reactors in this country: 2.2.7

a) How does the DOE justify operating the N-reactor and other federal reactors without containment domes, and with less rigorous safety standards than those set by the Nuclear Regulatory Commission (NRC)? I do not accept the rationale that because they generally operate within the NRC guidelines it makes no difference that their standards are more lax. Because the DOE has the technical capability to operate within the NRC guidelines, the DOE and DOD should be required by law to meet at least the safety standards required of commercial reactors and commercial waste. 2.5.6

2) ALL DEFENSE WASTES SHOULD BE RETRIEVABLY STORED FOR AT LEAST 50 YEARS, AND ALL DEFENSE WASTES SHOULD BE DISPOSED OF BY DEEP GEOLOGIC BURIAL. This nation has decided that geologic disposal by deep burial, with wastes retrievably stored for at least 50 years, is the safest method for disposing of the spent commercial fuel. The DOE should be required to dispose of all its wastes in the same way. Therefore, the DOE should not be allowed to dispose of its wastes by In-place stabilization, and consequently options 2 (In-Place Stabilization) and 3 (Reference) are unsuitable. 3.3.4.2 3.3.1.1 3.3.2.1

a) I urge the DOE and at least one independent agency to consider other options for the safe retrieval of the pre-1970 defense wastes, so that it can be safely stored by deep geologic disposal at a site outside of Hanford, and retrievably stored for at least 50 years before burial. There is no justification for any other course except cost and political expediency, which should not be factors on wastes which must be isolated from human contact for at least 10,000 years. 3.3.3.1 3.3.5.3

3.5.5.28 3) ARE RADIOACTIVE DAUGHTER ISOTOPES INCLUDED IN TABLES 1 & 2? Tables 1 &2 (p.1.11 & 12) are difficult to understand. For instance, Americium-241 is a radioactive decay product of Plutonium-239+240, and yet it is not shown to increase as Plutonium decays. Were radioactive decay products computed into Table 2, or does it only depict the initial quantities of radioactive isotopes? If not included already, please recompute to accurately reflect the total quantities of isotopes.

3.3.2.1 4) OPTIONS 2 & 3 ARE VIRTUALLY IDENTICAL AND BOTH ARE UNACCEPTABLE. The reference option (option 3) is only a different name for onsite stabilization (option 2). If one looks at the numbers, it is clear from the reference (option 3) that the DOE plans to dispose of all pre-1970 waste (which is virtually all of the present defense waste) and even some of the post 1970 waste by in-place stabilization (option 2): Most of the plutonium generated and extracted by the defense department was done between 1944 and 1972; No extraction was done between 1972 and 1983. The reference option plans to stabilize in place all waste generated prior to 1970, and much of what has been generated since then (see p. B.24). Therefore, in option 3 the bulk of the total defense waste would be stabilized in place, as outlined in option 2. Therefore, option 3 is effectively option 2 as far as the present defense waste is concerned. Both these options are inappropriate.

3.5.5.14 5) WHY ARE THERE NO CONFIDENCE INTERVALS FOR ESTIMATES? One cannot foresee even the near future with 100% certainty, and predicting events 10,000 years into the future is even more difficult. Why then do the EIS tables lack confidence intervals on the estimates? For instance, on p. xii of Vol. I it is stated that 'Downstream users of the Columbia River would incur at most one health effect associated with the disposal of waste over the 10,000 years.' This is only one example of the consistent lack of confidence intervals for estimates. It is impossible to evaluate the data presented without some idea of the uncertainties involved. 95% certainty levels should be presented for all tables representing estimates. What are the uncertainties involved in your health impact estimates? How were these determined?

2.3.2.5 6) AN INDEPENDENT STUDY AND INDEPENDENT EIS IS IMPERATIVE BEFORE ANY DECISIONS BE MADE CONCERNING NUCLEAR WASTE DISPOSAL. It violates standard scientific practices to have the agency responsible for the generation of the nuclear waste also responsible for evaluating the health and environmental impacts of nuclear waste generation and storage. It is impossible to evaluate the scientific 2.3.2.9 data presented without independent input and review. It is imperative that an independent agency be charged with data collection, analysis, outline of options and production of the EIS.

143

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JUL 30 1986 6143
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3.3.5.4 7) NO ACTION SHOULD BE TAKEN UNTIL LESS HAZARDOUS TECHNIQUES ARE DEVELOPED FOR THE RETRIEVAL, PROCESSING, AND STORAGE OF THE PRE-1970 DEFENSE WASTES. It is clear from the wording throughout the EIS that the DOE does not yet have techniques for the safe retrieval and disposal of the pre-1970 defense wastes (see p. 1.8, 1.17 for examples). Therefore, no action should be taken until technologies can be developed for the safe retrieval, processing and storage of this wastes. It is unconscionable to literally sweep this waste under a rug of concrete and leave future generations with the task of cleaning it up should the DOE's predictions of environmental impact prove in the future to be too optimistic.

Sincerely,

Paul H. Yancey
224 N. Bellevue Ave.
Walla Walla, WA 99362

187

141

DOE Richland Operations Office
ATTN R.A. Holten/EIS
Waste Management Division
Richland, WA 99352

 6 July 1986

I am writing to express my opinion concerning the DOE's draft Environmental Impact Statement entitled 'Disposal of Hanford Defense High-Level, Transuranic, and Tank Wastes' (EIS), and wish to raise the following points:

1) AN INDEPENDENT STUDY AND EIS IS NECESSARY. I cannot accept any data, probabilities, or conclusions presented in the EIS, since the EIS is researched and written by the same department which has generated, stored, and must now try to clean up and dispose of the wastes. I believe that no action should be taken on disposal of defense nuclear wastes until an INDEPENDENT agency can both examine the original data, critique the DOE's EIS, explore other retrieval and disposal options and make recommendations as to how the defense waste should be retrieved and disposed.

2.3.2.9

a) This nation was built on the ideal of separation of powers: separation of church and state, and separation of judicial, legislative, and executive bodies of government. How then can this same nation set one department, the DOE, with the task of generating, monitoring, storing, and ultimately disposing of its own hazardous materials? This is clearly a conflict of interest. No matter how noble the purpose and how strong the desire for objectivity, it would be asking the impossible of any individual or organization to remain neutral and objective on all facets of this issue. I therefore consider it imperative that an independent agency be set up to monitor past, present, and future generation and storage of defense wastes and to determine how best to retrieve and dispose of the defense wastes already generated.

2.5.5

2.2.13

b) I know that the siting of the commercial waste repository is beyond the scope of the defense waste EIS, but I believe it is nevertheless relevant to point to the DOE's violation of its own guidelines in elevating Hanford from 5th of 5 sites to 3rd of the three sites chosen for further characterization. The DOE has lost all credibility as an objective party by placing its departmental concerns above the health and safety of the American people. This agency cannot be trusted to present options which accurately reflect the real health and environmental impacts involved.

2.5.5

2) ALL DEFENSE WASTE SHOULD BE RETRIEVABLY STORED FOR AT LEAST 50 YEARS AND THEN DISPOSED OF BY DEEP GEOLOGIC BURIAL. This nation has decided that geologic disposal by deep burial is the safest method for disposing of the spent commercial fuel, and that wastes should be stored retrievably for at least 50 years. The DOE should be required to dispose of its wastes in the same way. Therefore, the DOE should not be allowed to dispose of its wastes by In-place stabilization, and consequently options 2 (In-Place Stabilization) and 3 (Reference) are unsuitable. Furthermore, retrievable storage for all wastes for at least 50 years should be mandatory.

3.3.4.2

3.3.1.1

3.3.2.1

It is the duty of government to protect its citizens from external as well as internal harm. Why does the DOE continue to operate its reactors and propose disposing of its nuclear waste less stringent standards of safety than those required by the government of commercial reactors? The DOE should be required to meet standards at least as rigorous as those required by the government for commercial reactors! This imperative applies to the operation of the defense reactors, including the N-Reactor, the operation of the PUREX plant, and the processing, storage, retrieval and disposal of all defense nuclear wastes.

2.2.7

3) ALL DEFENSE NUCLEAR WASTE SHOULD BE REMOVED FROM HANFORD TO A GEOLOGICALLY SAFE DEEP REPOSITORY. The National Academy of Sciences recommended the DOE change its selection criteria, such that Hanford should have been dropped from the list of characterized sites for commercial waste storage. Defense wastes are more unstable than commerical wastes. These wastes therefore must not be stored at Hanford, and should be shipped away from Hanford for disposal. The location should be chosen on the basis of geologic safety, not political expediency. The DOE has already compromised the siting of the commercial waste repository. It should not be allowed to do the same for the defense wastes.

3.3.1.1

2.1.1

a) Why did the DOE violate its own site-selection guidelines in order to have the Hanford site chosen for characterization when other, safer sites were available? I am curious to know the justification for this position since it has compromised the safety standard for site selection. Because the defense waste may be placed in the commercial repository, it is pertinent to the defense EIS to demand that the DOE justify its decision to choose Hanford for site characterization, even though it ranked last on the list using the DOE's own site selection criteria.

2.2.14

188

p.3/4

3.4.2.2 b) P. 1.8 states that 'sending most of the Hanford wastes to a deep repository after they have been immobilized in glass may not be justified when risk and cost are weighed against benefits. If it is not worth the risk to transport wastes from Hanford somewhere else, then why is it worth the even greater risk (greater since more waste (see p. 1.7), and greater distances are involved) to transport commercial waste from the East Coast to Hanford? Surely the granite sites on the East coast, the Nevada Tuff, the Texas Salt, and the rocks at whatever site should have been chosen instead of Hanford for further characterization, would be at least as safe as the water-saturated Hanford Basalts!!!!! This is clearly a double standard.

2.1.1 Therefore, the commercial repository should not be located at Hanford, and all defense wastes should be removed from Hanford to a geologically safe deep repository.

3.3.5.4 4) NO ACTION SHOULD BE TAKEN UNTIL SAFE TECHNOLOGIES FOR THE RETRIEVAL, PROCESSING, AND RETRIEVABLE STORAGE OF THE PRE-1970 DEFENSE WASTE ARE DEVELOPED. The defense department created this waste, and should be held responsible for disposing of ALL its wastes in the same manner as that required of commercial nuclear reactors. It is clear that the DOE does not yet have the expertise to do this safely (see p. 1.8 & 1.17).

3.3.4.2 Therefore, no action should be taken on the long-term disposal of the defense wastes until technologies can be developed to retrieve and package the pre-1970 waste in a manner suitable for deep geologic disposal, and should be retrievably stored for at least 50 years.

2.2.13 Furthermore, studies should be undertaken by independent agencies to determine the most suitable retrieval and disposal options.

2.1.3 5) HANFORD IS AN INAPPROPRIATE SITE FOR STORAGE OF BOTH DEFENSE AND COMMERCIAL NUCLEAR WASTE. Because plutonium is currently a waste product of the commercial industry and the desired end product of the defense department, commercial fuel should under no circumstances be stored at a defense facility. THEREFORE, HANFORD SHOULD BE REMOVED FROM CONSIDERATION AS A REPOSITORY SITE FOR SPENT COMMERCIAL NUCLEAR FUEL! To store the commercial waste at Hanford is yet another violation of the separation of powers on which this nation prides itself. It also violates our 40-year policy of separating the peaceful and destructive uses of the atom and is an open invitation to other nations to make weapons out of their commercial fuel.

144

p4/4

No government will believe we do not use spent commercial fuel for warheads when this rich plutonium resource is located in the middle of a defense facility, even if it is not used for this purpose! There are sufficient non-defense sites available in this nation that there is no need to locate commercial waste at a defense facility which is reprocessing spent fuel for warheads (unless the government intends to do so). The fact that the DOE elevated Hanford from a low position on the list of available sites, passing over more suitable sites based on safety, supports the notion that Hanford is being chosen as a commercial plutonium-extraction site (either for bombs or breeder fuel) rather than a commercial waste storage site. 2.1.3

What assurance can the DOE give the American citizens and the rest of the world that spent commercial fuel will not be processed into plutonium for warheads if the commercial waste is stored at Hanford? I realize that there is currently legislation to prevent this, but congress could change the legislation, and even if it does not, the DOE could place a blanket of 'National Security' over the site and reprocess the spent commercial fuel without permission. How can this be prevented if the commercial waste is located on a defense site? 2.1.3

I know the DOE would like to argue that this issue is not relevant to the defense waste EIS, but I believe the two issues are inseparable. By setting the precedent of 'in-place stabilization' for the defense waste, the DOE is paving the way to extract plutonium from the spent commercial fuel at Hanford, thereby turning the more easily disposed of commercial waste into the same high-volume liquid, sludge, and solid waste that the defense department cannot yet dispose of safely. If it can sweep 40 year's accumulation of defense waste under a rug, as options 2 & 3 intend to do, it can just as easily sweep all the commercial waste under the same rug after it has been reprocessed to remove the plutonium and uranium, whether for warheads or breeder fuel. 3.3.2.1 2.1.3

--It is therefore imperative that commercial nuclear waste not be stored at Hanford, and that defense waste be subject to the same disposal practices as are currently required for spent commercial fuel.

Sincerely,

C.S. Weiler

C.S. Weiler
224 N. Bellevue Ave.
Walla Walla, WA 99362

189

145

Portland, Or
97206

2.1.1

Dear Bonneville Administration:
Im against the Hanford dump of Radiation. We don't want people transporting Radiation into our area. This has had a massive exposure to this Hanford from a transportation accident.

3.4.2.2

I wonder why we must have so much nuclear energy. It's messy and dangerous by products.

It's getting to even go fishing. My Mother died in 1954 before we knew what Hanford was doing. She died of Cancer she wasn't a smoker and she lived in S. Ramona. We lived on lots of fish. Now we are hearing that we have Contamination of fish.

3.2.4.2

Im a senior citizen so I don't go to the hearing. The streets of Portland are so loaded with Criminals it's dangerous for some one like me to go the meeting.

Sincerely, Linn Dowdy

Can't even fish safely

To the Editor: I keep reading reports from scientists and so-called experts saying not to eat dairy products and meat, not to salt food, don't smoke, our air is polluted, watch out for acid rain, for radon in our homes, for caffeine.

Now I read that the Columbia River I fish in has radioactive silt. Help!

TED STANWOOD
2211 S.E. 142nd Ave.

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145

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Broadening of Hanford hearing demanded

Atiyeh wins support on Hanford study fund

191

146

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Friday-July 11th.

It was midnight last night before the last of the public speakers against the use of Hanford as the waste dump of the nation were finished talking. Who could sleep after that? You are darned right-we are all concerned and feel as though this is going to be forced down our throats; like a mother robin feeding her chicks. Well, this little "chick" is a mother of four healthy kids; and you have seen no anger or force than that of a mother protecting her own!

In this case, I look upon these beautiful states of ours, as my own!! I am going on record as saying that " WE DON'T WANT NUCLEAR WASTE ANYWHERE!!!" AND WE SURE AS HELL, DON'T WANT IT IN OREGON!! We can't seem to make it clear that we don't want this poison being made. None of us are infallible. But when I make a mistake in making dinner; we throw if out and go out to dinner. What happens if you make a mistake? And God knows YOU make mistakes!! Do you throw it out and go out to dinner? Seems like that is the case. Throw it in the ground, the sky, or the ocean, then go have dinner. It's forgotten. For you it's forgotten, but the rest of us pay and pay and pay. Let's see: we pay for the spillage, the clean up, the disposal; for making the damned stuff in the beginning. But that's just the monetary side of it. I am worried about paying in the ecology side of it. I love this state. I love clean water. I love to fish in clean water, I like to eat healthy fish from clean water. I like to drink clean water from my own well. 2.1.1 3.3.1.1

Now some educated idiot wants to put waste near the Columbia!!! Can you guarantee that there will never be an accident? No you can't. You can't even guarantee that you'll even be around if it happens. I don't want to see this poison being dumped any where in the world! But as the last speaker said last night;"a good place for this stuff would be in Washington D.C." I think that any of you that want it should have to have it. Put it in your backyard; or your neighbors yard might be better as far as you seem to be concerned. Afterall, if you push it off on to someone else the problem isn't really yours, is it? 2.5.5

It's no secret that our own government uses us in tests-after the fact-thought it may be. Look at Love Canal. They knew what was happening but thought if they kept quiet it would go away. Poison is poison and not talking about it or admitting a problem is there was like a placebo for the government. We won't roll over and play dead just because the government says so. Viet Nam should have told them that. The people will have the last say.

146

I am just a mother; I am not a provokist; an objector by trade or even an educated idiot. I am blessed with good and common sense; something a mother needs to bring her children up to adulthood. I also have a good sense of humor; but I haven't used it much this day. I cannot tell you how very scared I am that we have the nuclear problem anyway. If you don't make it you don't have to get rid of it.

2.5.6

Don't try to put it in Washington, just under our noses. I don't know how the rest of the states are as I have lived in the western states all my life; but I do know that we won't sit still for this!!

This has done probably nothing as far as D.O.E. is concerned. The only thing it has done for me is release some of the tension I have felt today. But I am strong and I'll have more strength for the fight if it comes to one; to beat the nuclear waste problem in this country.

2.3.2.8

A concerned citizen and scared Mom,

Shari Youngstrom

Box 121
Hines, Ore. 97738

192

147

CITY OF YAKIMA

Office of the Mayor CITY HALL, YAKIMA, WASHINGTON 98901 Phone: (509) 575-6050

July 30, 1986

Rich Holten/EIS
U.S. Department of Energy
Richland Operations Office
P. O. Box 550
Richland, WA 99352

Dear Mr. Holten:

Enclosed with this letter are my comments on the March, 1986 U.S. Department of Energy's Draft Environmental Impact Statement - Disposal of Hanford Defense High-Level, Transuranic and Tank Wastes (DOE/EIS-0113). A copy of these comments will be included in the report submitted by the Northwest Citizen's Forum on Defense Waste.

I appreciate the opportunity to comment on the DEIS and look forward to continued participation in this important process.

Please address any response to my residence:

916 So. 17th Avenue
Yakima, WA 98902

Sincerely yours,

Clarence Barnett

Clarence Barnett
Assistant Mayor
Member, Northwest Citizen's Forum
on Defense Waste

enc.

COMMENTS OF CLARENCE BARNETT
ON HDW-DEIS, DOE/EIS - 0113 (7/30/86)

193

TIMING OF DEFENSE GEOLOGIC DISPOSAL ACTIONS AND OPERATIONAL DATE FOR REPOSITORY:

3.3.5.5

1. There are several statements in the DEIS that indicate defense waste will be processed and ready for geologic disposal before the operational date of the repository.

   A. "The molten glass product is transferred into canisters that will be temporarily stored at the HWVP site. The waste canisters will be transferred from the HVWP to a geologic repository when such a repository can receive these defense HLW and TRU waste forms." (Vol. 2, Section C.1, Page C.2)

      This raises the question as to whether there is need for interim storage. The HDW-DEIS does not include the anticipated inventory or environmental impacts resulting from this temporary storage.

   B. The DOE time line for the commencement of operations for the first repository is 1998. However, the DEIS states that strontium and cesium capsules are to be stored in the Waste Encapsulation and Storage Facility until 1995 and then removed for geologic disposal. (Vol. 1, Section 3.3.1.3 and Vol. 2, Section H.3.3) The HDW time line does not appear to be compatible with the beginning operational date for a respository.

   C. An additional consideration that may affect the HDW time line for geologic disposal is whether the development of a Monitored Retrievable Storage Facility will be used to extend the beginning operational date for the repository.

      The final EIS should include contingency approaches that would be pursued in the event that a repository has not commenced operations or the role of an MRS facility for Hanford defense waste.

3.3.5.5

2. Several ambiguities for acceptance of defense waste in a geologic repository are found in USDOE "Record of Responses to Public Comments on the Draft Mission Plan for the Civilian Radioactive Waste Management Program", June, 1985. (DOE/RW-0005)

   A. The schedule for the acceptance of defense waste is not tied to the 1998 date. (Vol. 2, Page 98)

   B. Commercial waste will be the first waste emplaced in the first phase of the first repository. (Vol. 2, Page 183)

   The final EIS should include a time line for the processing of HDW for geologic disposal in relation to the acceptance schedule in the geologic repository.

HYDROLOGIC AND GEOCHEMICAL MODELS

The current status of hydrologic and geochemical models used to simulate subsurface contaminate migration necessitates making certain assumptions due to technical and data limitations. Calibration of computer models to actual field data is an issue to be closed prior to making a final disposal decision. 3.5.2.6

Statements made in the DEIS (rather than a technical analysis) leaves reasonable doubt as to the adequacy of some of the preliminary analyses at this time. Testimony indicates that there are several interpretations as to the adequacy of the models used in the preliminary analyses.

This is an area of major concern. It is recognized that additional research and peer review will be required before a consensus can be obtained.

WASTE PACKAGES FOR GEOLOGICAL DISPOSAL

Waste package conceptual designs for geologic disposal have been developed and prototype testing is in process. 3.1.8.16

The final EIS should include a statement as to whether the final waste package design will need to be site-specific depending on the geochemical (and other) conditions of the selected repository.

REDUCTION OF WASTE INTO SOIL

DOE Order 5820.2 establishes the policy of eliminating ground disposal of radioactive waste and chemical waste into the soil. DOE plans a separate study on this policy. 2.4.1.19

The final EIS should include the scope and anticipated time frame to implement DOE Order 5820.2.

PACKAGING STANDARDS FOR TRANSPORTATION OF DEFENSE WASTE

The DOE has the authority to design and certify its own packaging to be used by government shippers. (Vol. 1, Page 1.5) Type B packaging design must be certified by either the DOE or NRC. (Vol. 2, Page I.2)

This raises the question as to whether there is different criteria used by the DOE and the NRC for design certification of packagings. 3.4.2.12 3.4.2.13

The final EIS should clarify that packagings certified by the DOE must meet the NRC packaging standards.

CLARIFICATION IN VOLUME 2, PAGE E.6, RH-TRU

4.2.18 The first sentence in Volume 2, Page E.6 reads: "The RH-TRU waste is expected to be processed and stored with RH-TRU waste from the decontamination and decommissioning of facilities." (Underscore added) This sentence implies that RH-TRU does not go to the WIPP before the decommissioning of facilities.

The final EIS should clarify that RH-TRU is sent to WIPP if that alternative is selected.

MANAGEMENT PLANS

4.1.13 The DEIS frequently incorporates within the text a future activity or study such as under the Hanford Defense Waste Management Technology Program or the Hanford Waste Management Plan.

When these programs/plans are incorporated into the text, the final EIS should be more specific and expand on the scope and degree of confidence placed on the activity.

COMMINGLING OF COMMERCIAL AND DEFENSE WASTES

194

2.1.3 The decision to commingle commercial and defense wastes in the same repository has raised public concern as to the impacts of defense waste to the civilian repository program.

The final EIS should include an appropriate statement that once a repository is chosen, DOE will be required to write an EIS for the repository that will include defense waste impacts, including monitoring.

MIXED HAZARDOUS CHEMICAL/RADIOACTIVE WASTE

3.1.6.1 The impact of mixed hazardous chemical/radioactive wastes is not included in the EIS. The disposal of mixed waste material is of special interest due to the uncertainties associated with these waste forms at this time. Testimony before the Forum indicated that DOE is just getting started on the mixed waste issue and that these wastes may present significant problems.

Further, the DEIS wording in Section 6.6 (Volume 1) Resource Conservation and Recovery Act (RCRA) is not conducive to public confidence.

The final EIS should include a statement of commitment that disposal of mixed wastes will comply with State and Federal standards in force at the time these wastes are disposed. Further, the commitment should apply to all hazardous waste.

147

PROTECTIVE BARRIER

3.5.1.1
3.5.1.56

The successful performance of a protective barrier to cover large volumes of waste is a major consideration applicable to all disposal alternatives. The multi-layer earthen cover design was chosen for the DEIS as a preliminary evaluation of a protective barrier to stop water infiltration into the waste (Appendix M). Engineered barrier effectiveness is one of the issues that must be closed. DOE will conduct a research and demonstration project focused on barrier performance.

3.5.1.3

Representatives from the Washington State Nuclear Waste Board appeared before the Forum and raised a number of issues on the preliminary analysis of the protective barrier (Appendix M). On July 17, 1986, the Board issued its draft "Interim Reports on Policy and Technical Issues" of the HDW-DEIS. Technical Issue 1, "Performance of Engineered Barriers and Shallow-Barrier Sites" alleges "there is a systematic misuse of references, which requires a complete reevaluation of all assertions made regarding anticipated high performance of the barriers." (Refer to the Board's document for the complete text). The Washington State Department of Ecology, Office of High-Level Nuclear Management, Preliminary Draft Technical Review of the HDW-DEIS (prepared by URS Corporation) has detailed comments on Appendix M.

The issues raised by the Washington State Nuclear Waste Board on the DOE preliminary analysis of the performance of the protective barrier should be considered and evaluated before issuance of the final EIS.

LOW-LEVEL WASTE

2.3.1.13

The disposal of low-level defense waste is excluded from the DEIS. The main purpose of the EIS is to focus on high-level waste as recommended by the National Research Council. LLW and the resultant impacts were addressed in ERDA-1538. Although DOE believes that the environmental impacts of LLW are small and pose no significant jeopardy to the environment, DOE has initiated a study to determine whether any additional action should be taken; the adequacy of ERDA-1538 with respect to LLW impacts are being reconsidered.

The fragmentation of LLW and HLW makes it difficult to ascertain the total defense waste disposal program. The final EIS should include in summary form: 1) the main points in ERDA-1538 applicable to LLW; 2) an inventory of these wastes; and 3) the options available that will be taken should the study determine that additional action must be taken.

ANNOUNCEMENT TO POSTPONE WORK FOR A SECOND REPOSITORY

3.3.5.7

2.1.8

The DOE announcement (May 28, 1986) to postpone indefinitely site-specific work for a second repository has heightened public concerns on disposal of commercial and defense waste to an extent that has seriously overshadowed discussion limited to the HDW-DEIS. Many citizens now want assurances with specific information that demonstrates whether a single repository has the capacity to receive both commercial and defense waste, including a separate break-out showing Hanford's defense waste contribution.

DOE should give serious consideration to include this information in the final EIS.

ERROR IN TABLE H.13, WASTE PROCESSING STEPS FOR THE REFERENCE ALTERNATIVE

4.2.55 Table H.13, Waste Processing Steps for the Reference Alternative (Vol. 2, Page H.24) in the second block under existing Tank Waste should read that the high-level (rather than low-level) of existing tank waste is immobilized as glass.

SINGLE-SHELL TANK WASTE

1. Testimony against in-place stabilization of single-shell tank waste covers a broad spectrum ranging from being premature to selection would result in an irrevocable decision. In-place stabilization of these wastes is an area of uncertainty and there is need for focused research. DOE 3.1.4.1 indicated that the intention for in-place stabilization of single-shell tank waste is to make disposal decisions on a tank-by-tank basis and that waste found to be too hazardous for in-place stabilization will be processed for geologic disposal.

   This should be developed and included in the final EIS.

2. The NRC has proposed that 3000 NCI/gm would identify material that qualifies as high-level waste. This standard would apply to some single-shell tanks.

   The final EIS should include the impacts of this proposed change in standards and its effect on the in-place stabilization alternative.

3. 2.4.1.7 The final EIS should include a statement that high-level wastes stabilized in-place for single-shell tanks will meet the regulatory requirements of a repository.

4. Testimony indicated the need to focus research on other alternatives for single-shell tank waste. In view of the public concern on disposal of these wastes, the final EIS should include the scope of research that will be considered prior to making a final disposal decision.

TRU-CONTAMINATED SOIL SITES AND PRE-1970 TRU BURIED SOLID WASTES

3.1.3.26 TRU-contaminated soil sites and pre-1970 TRU buried solid waste sites have been previously closed but are being reviewed to determine whether further action is warranted in terms of environmental protection (Vol. 1, Page 3.9). These wastes contain 540 kilograms of plutonium. The reference alternative does not call for retrieval and processing of the soil sites nor most of the buried solid waste.

147

Since the sites are being looked into to determine whether additional environmental protection is needed, it is proper in the interest of long-term safety to include in the final EIS that disposal decisions will be made on a site-by-site basis, and sites found to be too hazardous (even with the additional protection) will be retrieved and processed for geologic disposal. 3.1.3.26

REFERENCE VOL. 1, SECTION 3.3.5, PAGE 3.33, PARAGRAPH CAPTIONED "GEOLOGIC REPOSITORY DISPOSAL OF SELECTED SINGLE-SHELL TANKS

The sentence that reads as follows is not clear as to its relationship to other sections in the DEIS: "That does not foreclose the option, after the completion of the tank characterization program, of developing a strategy of removing certain high-activity tanks and leaving the rest." (Underscore added) Other sections of the DEIS discuss removal of the high-activity contents from these tanks and not the removal of the tanks. This paragraph requires clarification in the final EIS. 3.1.4.33

REVISION OF RADIATION STANDARDS

The DOE is in the process of revising its radiation standards in the vicinity of DOE facilities (Vol. 1, Page 4.1 and Vol. 1, Page 6.1, Footnote "a"). Pending development of a revised order, concentration guides presented in the current order (DOE 1981) are used in the DEIS. In response to my inquiry on the effect of these revisions, DOE responded: "The overall radiation standards (radiation dose to people) will in effect be lowered. Changing methods of relating concentrations of nuclides to dose equivalent from those of ICRP2 to ICRP26/30 are expected to result in permissible derived air concentrations for a few nuclides that are larger than previously used." 3.5.5.5

This additional information should be included in the final EIS and cross-referenced to Vol. 2, Page xxxix on the planned adaptation of the HDW models to use the newer dosimetric data.

PARAMETER VALUES FOR STRONTIUM FLOURIDE

The DEIS states that additional research is needed to determine more realistic values for strontium flouride. (Vol. 2, Pages I.20 and I.33) In answer to my inquiry on the time frame for resolution of parameter values, the DOE response was that they have learned that strontium flouride is in different form than that used in the DEIS making the accident risk estimates in the DEIS significantly overstated. "As a result, more reasonable estimates are that 1% of the strontium flouride is in the form of dispersible particles and 5% of the dispersible fraction is also respirable" (rather than 100% respirable particles). The final EIS should be changed to reflect this new data. 3.5.5.7,

LOGIC DIAGRAMS

1. The HDW-DEIS has of necessity been prepared before final optimized designs are available for all processes, and certain research and demonstration projects are necessary to be completed for the disposal options. The question that keeps rising is what is the next step or approach that will be selected if any of these designs or technologies fail? Are there alternatives or variables that can be considered? What are the implications of failure?

4.1.11 For example, in response to my questions, several alternatives were identified:

Failure	Possible Alternative
Barrier System	In Situ Vitrification.
Grout	Bitumin, ureaformaldehyde, or vinyl ester styrene waste forms.

Closed-loop cooling is being examined as an alternative in eliminating the use of cribs.

Logic diagrams identifying the next best variable or alternative to be considered would increase confidence of disposal solutions.

196

2. Due to: 1) the fact that there are so many technical issues that must be closed; 2) that the DEIS does not include all defense waste; 3) that some work is underway or planned under the Hanford Waste Management Plan; and 4) these actions are in many ways interrelated and dependent upon the success of another action, the final EIS should include a logic diagram for the sequence of events of performance that would be taken for confidence of not being "locked-in" to some particular course. These alternative technologies should be described. The logic diagrams would show the role of integration in the process and the schedules for testing.

4.1.11

GLOSSARY

4.2.55 There are a number of Acronyms used in the DEIS that do not appear in the glossary. For example: BNL, AGNS, ENC, EGG, FBR, NFS, RLFCM, SRL, RHO, WCF, etc. The final EIS should include these ommissions to enhance readership.

TRANSVERSE DISPERSION:

3.5.2.9 The DEIS states that present acquifer characterization permits a complicated conceptual model on transverse dispersion effects, but the necessary computer software is not presently available for application to the Hanford site. (Vol. 3, page 0.32).

DOE has responded that incorporation of transverse dispersion effects into a model would not improve the analysis of radiological impacts and it is not planned that the more complicated conceptual model will be employed in the decision-making process.

The final EIS should include the reasons DOE does not plan to develop the computer software for the additional analysis on transverse dispersion effects.

EMERGENCY RESPONSE

The primary responsibility for emergency response planning and capability lies with State and local governments. The DEIS names federal agencies that provide planning assistance and emergency support to cope with radiological hazards (Vol. 2, Section 1.8). 3.4.2.24

The final EIS should expand Section 1.8 to include the scope of direct support provided by these agencies.

SLAGGING PYROLYSIS INCINERATOR:

The geologic alternative uses the Slagging Pyrolysis Incinerator (SPI) process to reduce volume. SPI is not used in the Reference Alternative. 3.3.5.6

The final EIS should include the reasons SPI is not used in the Reference Alternative.

CONCLUSIONS

1. Several reasons exist that make it inadvisable at this time to support one of the specific alternatives stated in the DEIS;

   a. the many areas that require additional research and development for needed technology to support a given alternative; and 3.3.5.3

   b. the interrelationship of separate programs that exist to deal with the different types of defense waste on the Hanford site. 2.3.1.14

2. In my judgement, the DEIS supports disposal strategies and implementation decisions for the following waste types:

   a. Double-Shell Tank Waste (geologic);
   b. Retrievably Stored and Newly Generated Transuranic Waste (WIPP); 3.3.5.3
   c. Strontium and Cesium Capsules (geologic).

3. The DEIS supports the need to fund further research and data collection for the following waste types:

   a. Single Shell Tank Waste;
   b. Pre-1970 Buried TRU-Contaminated Solid Waste; 3.3.5.3
   c. TRU-Contaminated Soil Sites.

No alternative for these waste types should be finalized until the effectiveness of an engineered barrier is demonstrated, the calibration of computer models with field data manifests a high degree of confidence, and applicable waste retrieval methods receive additional review. (Although TRU-Contaminated Soil Sites and Pre-1970 TRU Buried Solid Waste Sites are considered to have been disposed of, but are being 3.1.3.26

3.1.3.26 reviewed to determine whether further action is warranted in terms of environmental protection, they should be revisited considering the development from actions enumerated in the preceeding sentence).

4. Single-Shell Tank Waste may warrant additional NEPA review for either In-Place Stabilization or Geologic disposal.

3.2.4.1 5. The protection of the acquifiers and the Columbia River should be paramount in disposal decisions.

6. In the interest of public health and safety:

2.2.1 a. The final EIS should be completed on a timely basis; and

2.2.9 b. Funding for defense waste clean-up at the Hanford site should receive high priority.

2.3.2.8
3.2.4.1
2.3.1.3
2.3.1.14
3.5.5.42
2.3.2.7
3.4.3.7
2.2.13
3.3.4.2
3.4.2.24
2.3.2.9
2.2.1

COMMENTS MADE BY THE PUBLIC TO CLARENCE BARNETT AS A MEMBER OF THE NORTHWEST CITIZENS' FORUM ON DEFENSE WASTE:

(Comments are abbreviated and bring out only the salient points.)

Open House in Yakima informative.
Workshop in Yakima helped to understand problems associated with Defense Waste.
A Public Hearing on the DEIS should have been held in Yakima.
Columbia River contamination is major concern.
Repository issue is more important than Defense Waste.
All Defense Waste should be in DEIS.
Need independent epidemiological study.
Insufficient time to comment on DEIS. Short comment period builds up emotions.
Sabbotage not addressed in DEIS.
State should monitor cleanup.
Keep waste above ground so can be monitored.
Put all waste in Monitored Retrievable Storage.
Need strict regulations for truckers.
DOE should assume more emergency response responsibility.
Have panel of scientists make independent review of FEIS before it is issued.
Economic risk analysis needed.
Safety over long-term, not cost, should be the major consideration.

197

Michael L. Clark
1008 Prospect Av NE
Olympia, WA 98506

July 14, 1986

R.A. Holten/EIS
US Dept of Energy
Richland Operations Office
P O Box 550
Richland, WA 99352

This is a comment regarding the Hanford Defense Waste Draft Environmental Impact Statement.

It is obvious that nuclear wastes have to be disposed of somewhere, even if most persons near proposed sites are going to have very serious misgivings about their proximity to them. If Hanford is finally settled upon as a site for disposal of this very toxic waste, I believe that the method used should be deep burial. 3.3.1.1

I have no information regarding the details of the specific process being considered in the Geologic Disposal Alternative. However, I would like to go on record suggesting that the process of encasing wastes in solid glass blocks be used in this disposal alternative. I understand that this is a superior method due to the extreme temporal stability of glass (that is to say that it does not break down significantly over long periods of time). 3.1.8.9

Thank you for the opportunity to comment on this matter.

Sincerely,

Michael L. Clark

149

OFFICE OF PROGRAM RESEARCH
House of Representatives

July 29, 1986

Mr. Rich Holten/EIS
U.S. Department of Energy
Richland Operations Office
Richland, Washington 99352

Dear Mr. Holten:

Comments follow on the DEIS, "Disposal of Hanford Defense High-level, Transuranic, and Tank Wastes" DOE/DEIS-0113. Comments are my own.

The DEIS includes (in addition to the required "no action" alternative) three alternatives: almost complete geologic disposal, complete in-place stabilization, and a reference alternative that is a combination.

I believe there should be another alternative. You might call it a "combination of the combinations".

198 3.3.3.1 USDOE's combination alternative, as written, has an all-or-nothing-at-all approach to the single-wall tanks. The contents of all tanks are either stabilized in place or removed and earmarked for deep geologic disposal. The single-wall tank contents vary and, accordingly, disposition should vary. It wouldn't make sense to empty a tank which doesn't contain harmful chemicals and whose radionuclides would decay to inconsequential levels in a few centuries. On the other hand, some tanks may have significant concentrations of harmful chemicals and long-lived radionuclides.

3.3.1.5 Each single-wall tank should be considered on a case-by-case basis. Either there should be accurate content records or required sampling of contents of each tank. Both radionuclide and non-radioactive hazardous chemical content should be evaluated and a decision made whether to stabilize or remove. I expect the result of this approach would be stabilizing some single-wall tanks and emptying others.

3.1.3.26 Certain pre-1970 transuranic sites, identified in the DEIS, should be afforded similar consideration. In this case, radionuclide concentration and location would be important since half lives are long.

Thank you for the opportunity to comment on the DEIS.

Sincerely,

Frederick S. Adair

Frederick S. Adair, Research Analyst
House Energy & Utilities Committee

150

CITY OF
PORTLAND, OREGON
BUREAU OF WATER WORKS

Dick Bogle, Commissioner
Edward Tenny, Administrator
1120 S.W. 5th Avenue
Portland, Oregon 97204-1926

July 16, 1986

United States Department of Energy
Attn: Karen Wheeless
Mail Stop FED/706
Post Office Box 550
Richland, Washington 99352

Subject: Comments on Draft EIS for Disposal of Hanford Defense Wastes

Dear Ms. Wheeless:

I regret that I was not able to attend the recent public hearing in Portland concerning the Draft Environmental Impact Statement for the Disposal of Hanford Defense, High-Level, Transuranic, and Tank Wastes. Although I was out of the country at the time of the public hearing, I would like to take this opportunity to express my support for comments submitted at the public hearing by the Mayor, other City Commissioners, and Edward Tenny, Administrator of the Portland Bureau of Water Works.

The City of Portland has gone to great lengths to ensure a safe, ample water supply for the local area. In order to continue this high level of commitment to our current and future citizens, it is essential that the region's water resources be protected against contamination by radioactive wastes. Protection of the Columbia River must be a paramount concern in order not only to preserve the existing investment in the Portland wellfields, but also to preserve future water supply alternatives for Portland. Given the long life of the wastes in question, it seems that the adopted disposal system must be essentially free of any risk of environmental contamination. 3.2.4.1

Because of the importance of this matter to the City, I strongly encourage DOE to conduct further research into the possible downstream impacts of radioactive waste leakage into the Columbia River. Please feel free to contact my office or Ed Tenny to further discuss such a study.

Thank you for the opportunity to offer these comments. The City looks forward to a satisfactory solution to this very important and complex problem.

Sincerely,

Dick Bogle

Dick Bogle
Commissioner of Public Works.

DB/MK/sa
cc: Mayor Bud Clark
Commissioner Mike Lindberg
Commissioner Mildred Schwab
Commissioner Margaret Strachan
Ed Tenny

151

S.H. Leroy
U.S. Department Of Energy
Public Affairs
P.O. Box 550
Richland, WA 99352

Department of Energy:

A few Comments on the Defense Waste DEIS produced by the DOE.

The world's largest storehouse of radioactive waste containing an amount comparable to all the fall-out that has even reach this planet is located in the pacific Northwest on the banks of the Columbia River.

On these rolling basalt hills, the Dept. of Defense(War) laid claim to 570 square miles of territory in 1941 for the production of the world"s first genocide weapons known to mankind. This Hanford Military Reservation is still making war on the health of the surrounding environment.

The by-products of the government's 40 year history are immense amounts of waste -- some of this waste so radioactive it will be around for 500,000 years. The governments record is a far cry from resolving the problem of what to do with all this toxic and highly radioactive waste.

A partial inventory of the waste at Hanford one will find:

-135 million gallons of high-level liquid waste produced since 1944 during reprocessing of uranium fuel cells to remove plutomium for nuclear weapons. This waste contains dozens of deadly radioactive isotopes.
-some 200 billion gallons of low and intermediate liquid waste have been dumped into ponds or discharged into the soil in underground drainfields. Some of this waste contains radioactive isotopes with half-lives of 4.5 billion years has reached the the water table under the Handford reservation.
-another 5 million plus cubic feet of solid radioactive waste consisting of refuse and contaminated equipment are stored in covered trenches at Hanford. This practice is considered permanent disposal of these waste by the DOE. I consider this a "nuclear nitwit" version of "out of site, out of mind".
-from the PUREX plant the DOE dumps 9 billions of toxic and radioactive waste by-products into cribs per year. This practice has gone unabated for years.

Besides these particular practices of the last 40 years, the American public has to endur consistent subversion of information, lying, and deceit from the government and the DOE at the Handford Nuclear Reservation. 2.5.5

The governments' secrecy policy on radiation mistakes is the same now as it was decades ago. The AEC withheld information about radioactive liquid that had leaked out of its' underground storage tanks at Handford nuclear installation. In a January 1959 subcommittee of the joint committee on atomic energy, a general electric official responsible for managing Hanford's waste testified "no environmental hazard will exist as long as the tanks maintained their integrity---we have never detected a leak from any of these tank, so that we are in turn persuaded that none has ever leaked". A year later the AEC asserted in its annual report that "waste problems have proved completely manageable." The fact remains the Hanford tanks had started leaking two years earlier, in 1958, the public did not learn that Hanford's tanks were leaking until years later. Other tank leaks went unnoticed for weeks. Some of these leaks were 2000 gallons , but a 1973 leaked dumped 115,000 gallons of high level waste into the soil. Total releases have been 454,000 gallons or more. Are the now double-walled stainless steel tanks which store this highly radioactive waste a security to prevent this highly carcinogenic from getting into the environment? I do not think the tanks are safe. 2.2.12 3.1.4.28

On the subject of permissible levels of radiation, the government is consistent in discrediting and terminating research projects that may suggest all is not as well as claimed. Dr. Samuel Milhan Jr. study of more than 500,000 males who died in the state from 1950 to 1971 concluded that workers at the hanford nuclear plant were more likely to die of cancer than other Washington state males. Dr. Milhan eventually lost the funding for continued research.

The governments' behavior of concealing mistakes, issueing misleading statements, repudiation of reports that disease and death may be attributed to radiation doses, and intolerances to dissent with the nuclear industry must change coarse. For the public distrust is to great an obstacle to overcome. 2.5.5

Why is it the public was not informed of the December 2, 1949 discharge of 5,500 curies of I-131 an iodine isotope which concentrates in human thyroid possibly causing massive functional damage and later yielding thyroid modules and cancer. By comparison, a single release of 15 curies of

(no comment identified) 199

151

I-131 at Three Mile Island was a suspected cause of health effects in human fetuses and new-borne infants.

Why is it the public was not informed of the million of curies of I-131 released over a ten-year span from 1945 thru 1955. Other radioisotopes, inclucing rhuthenium-106 vented into the atmosphere to cause skin irritations as far away as Spokane.

Why was it the public was not inform of these releases and the potential to human health. There is strong evidence the Hanford officials covered-up this information. There was concern for the public safety in this time as well as concern for the public safety now. A March 1948 document contained a warning from Hanford health physicist Dr. Herb Parker indicating "The theoretical possibility of injury developing 10 to 15 years from now poses a serious problem."

2.5.5 The Hanford Nuclear Reservation host the PUREX facility and the N-plant. Both are insidiously interrelated in weapons and waste. The PUREX plant the 7th in a series at Hanford chemically breaks down irradiated fuel rods from a uranium reactor to aquire deadly plutonium Pu-239. The N-reactor supplies the irradiated fuel rods for the PUREX plant.

200

A study released this spring in Spokane the HEAL organization has documented over 10 times the amount of plutomium particulates in Spokane soil than average levels of plutonium fallout due to world-wide nuclear weapons testng. This contradicts Mike Larwence viewpoint that "all the plutonium particles dispense before it reaches the reservation boundaries." Six miles from the PUREX smoke stack. It seems that Mr. Lawrence is not telling the truth.

October of 1984, PUREX was shut down for one month due to a loss of 10-13 kilograms of plutomium powder. Six pounds of plutomium is still unaccounted for. Where did it go? Perhaps the plutomium went up the PUREX stack. I have no confidence of PUREX plant safety and waste operations.

The N-plant has a dual purpose, it produces plutonium and generates electricity. It has a graphite core of 1800 tonnes larger than the Chernobyl reactor; it is fueled by low enriched uranium, 365 tonnes when fully loaded. It is cooled with ordinary water from the Columbia Rijver. The confinement building can withstand 5 p.s.i., the Chernobyl's containment structure could withstand 27 p.s.i.. The primary purpose of the N-reactor is the production of weapons grade plutomium. The N-plant is not necessary because the U.S. military has 220,000 pounds of plutonium and 1000 pounds of highly enriched uranium. It seems clear to me the risk to this region are more than enough for a complete shutdown of the reactor. Am I to trust this aging reactor to the hands of the DOE that is loaded with long lived radioactive inventory of more than 1000 Hiroshima bombs!

2.5.6

The Dept.of Energy should be subject to the same environmental regulations in its management of chemical and radioactive waste as is private industry. Specfically, timelines of the Resource, Conservation, and Recovery Act (RCRA), Superfund (CERCLA), and the Federal Water Protection Agency and the State Department of Ecology should oversee the DOE's management of the military wastes. At present, the DOE is both the polluter and its own regulator. The DOE decision to drop the search for a second repository must be challenged to place the military wastes into a repository. The agency violated the National Environmental Policy Act (NEPA) by not considering the impact of dropping the search for a second repository on disposal of military wastes.

2.2.13

2.2.14

Much of the anxiety that the nuclear waste now provokes would never have materialized if the federal government and scientific community had been candid from the beginning. They were not! Both insisted that radioactive waste posed little or no hazard; both insisted that the technology for dealing with it was proven. One glaring failure after another has proven them incorrect. From buriel grounds to reprocessing proved the experts wrong and planted seeds of public mistrust. Public mistrust that will not diminish with the current attitude the nuclear industry has towards the people of Washington state and its environmeent.

2.5.5

My recommendation is to dissolve the current DEIS process and incorporate the public comment, ideas, and suggestions rather than continue with this farcicle procedure the DOE is cramming down the throats of Washington State citizens.

2.3.2.10

Thank you.

Ray Oram Jr.
525 Seament Lane
Edmonds, WA 98020

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WM DIVISION