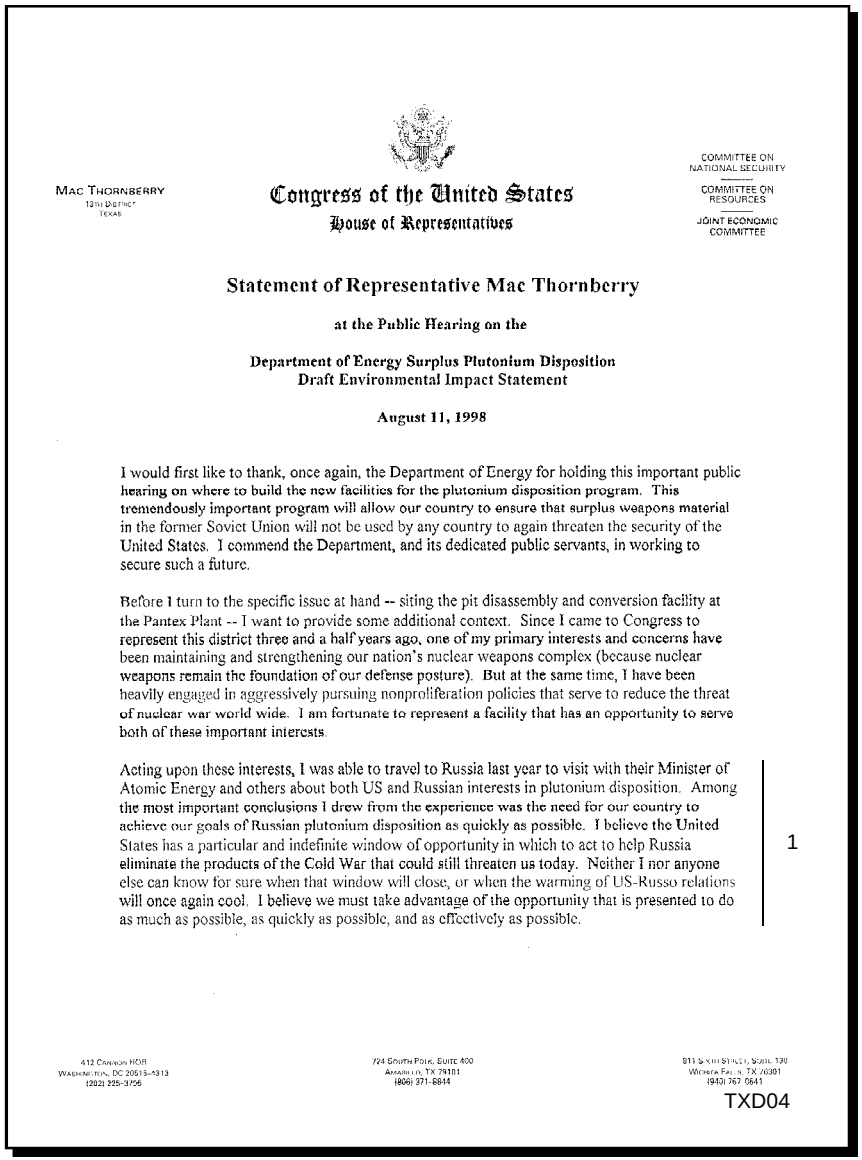
UNITED STATES HOUSE OF REPRESENTATIVES
HONORABLE MAC THORNBERRY, TEXAS
PAGE 1 OF 3



MAC THORNBERRY
13TH DISTRICT
TEXAS

Congress of the United States
House of Representatives

COMMITTEE ON NATIONAL SECURITY
COMMITTEE ON RESOURCES
JOINT ECONOMIC COMMITTEE

Statement of Representative Mac Thornberry

at the Public Hearing on the

Department of Energy Surplus Plutonium Disposition
Draft Environmental Impact Statement

August 11, 1998

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

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

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

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TXD04

TXD04–1 **Nonproliferation**

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

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HONORABLE MAC THORNBERRY, TEXAS
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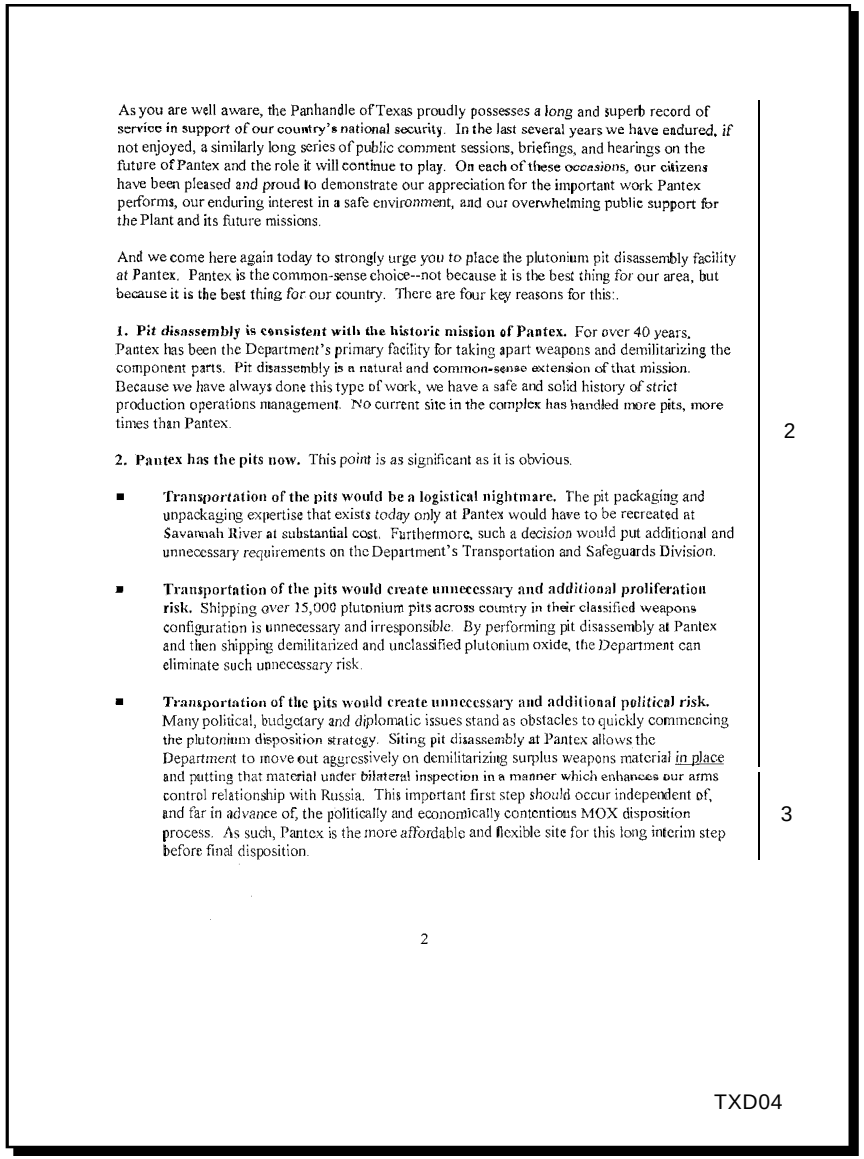

As you are well aware, the Panhandle of Texas proudly possesses a long and superb record of service in support of our country's national security. In the last several years we have endured, if not enjoyed, a similarly long series of public comment sessions, briefings, and hearings on the future of Pantex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

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

1. Pit disassembly is consistent with the historic mission of Pantex. For over 40 years, Pantex has been the Department's primary facility for taking apart weapons and demilitarizing the component parts. Pit disassembly is a natural and common-sense extension of that mission. Because we have always done this type of work, we have a safe and solid history of strict production operations management. No current site in the complex has handled more pits, more times than Pantex.

2

2. Pantex has the pits now. This point is as significant as it is obvious.

- **Transportation of the pits would be a logistical nightmare.** The pit packaging and unpackaging expertise that exists today only at Pantex would have to be recreated at Savannah River at substantial cost. Furthermore, such a decision would put additional and unnecessary requirements on the Department's Transportation and Safeguards Division.

- **Transportation of the pits would create unnecessary and additional proliferation risk.** Shipping over 15,000 plutonium pits across country in their classified weapons configuration is unnecessary and irresponsible. By performing pit disassembly at Pantex and then shipping demilitarized and unclassified plutonium oxide, the Department can eliminate such unnecessary risk.

- **Transportation of the pits would create unnecessary and additional political risk.** Many political, budgetary and diplomatic issues stand as obstacles to quickly commencing the plutonium disposition strategy. Siting pit disassembly at Pantex allows the Department to move out aggressively on demilitarizing surplus weapons material in place and putting that material under bilateral inspection in a manner which enhances our arms control relationship with Russia. This important first step should occur independent of, and far in advance of, the politically and economically contentious MOX disposition process. As such, Pantex is the more affordable and flexible site for this long interim step before final disposition.

3

2

TXD04

TXD04–2 **Transportation**

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

TXD04–3 **DOE Policy**

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

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

UNITED STATES HOUSE OF REPRESENTATIVES
HONORABLE MAC THORNBERRY, TEXAS
PAGE 3 OF 3

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

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

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

3

TXD04

TXD04–4 **Alternatives**

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

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

UNITED STATES HOUSE OF REPRESENTATIVES
HONORABLE MAC THORNBERRY, TEXAS
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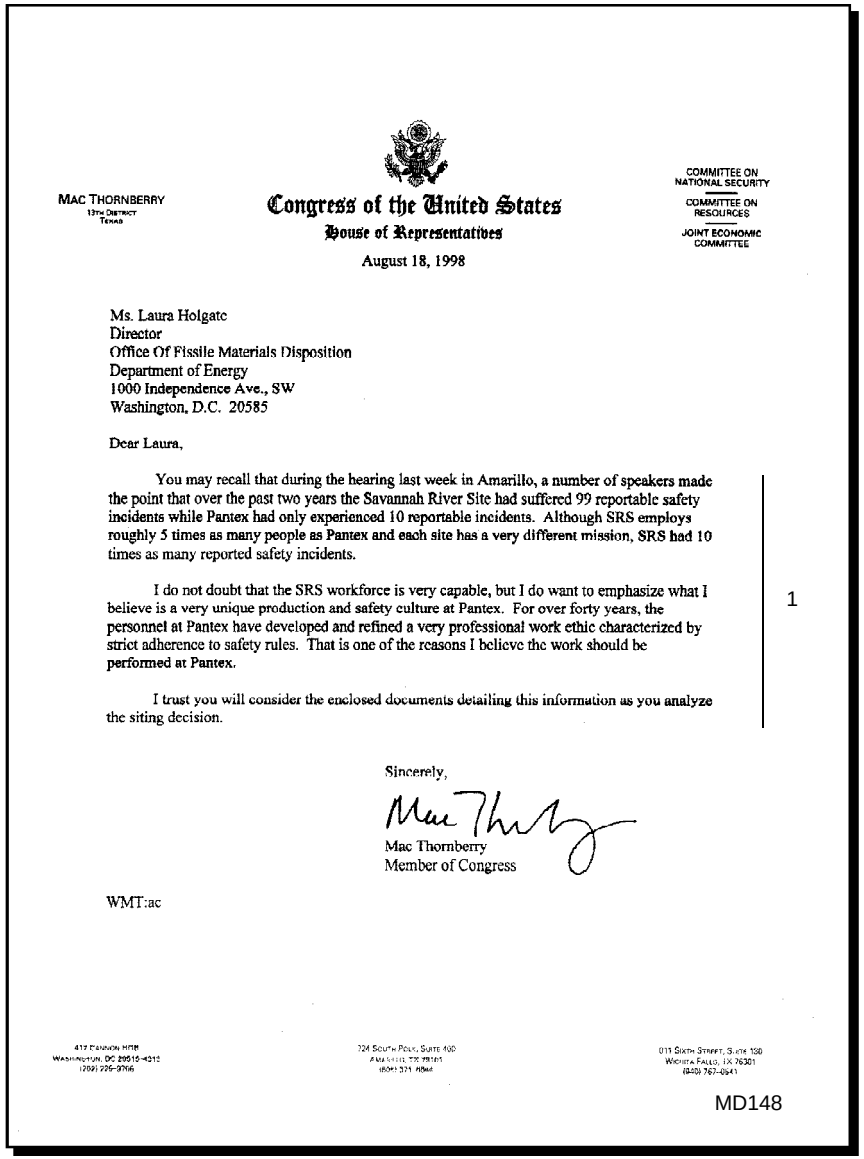

MAC THORNBERRY
13TH DISTRICT
TEXAS

Congress of the United States
House of Representatives

COMMITTEE ON NATIONAL SECURITY
COMMITTEE ON RESOURCES
JOINT ECONOMIC COMMITTEE

August 18, 1998

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

Dear Laura,

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

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

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

Sincerely,

Mac Thornberry
Member of Congress

WMT:ac

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MD148

1

MD148–1 **Human Health Risk**

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

UNITED STATES SENATE
HONORABLE SLADE GORTON, WASHINGTON
PAGE 1 OF 1

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

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

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

I do not disagree that cleanup remain a priority at Hanford, as it should be at all DOE sites. However, I fear that the Department's decision to eliminate Hanford as an alternative location is fiscally irresponsible and will most certainly impact future available cleanup funding. Hanford's existing multipurpose Fuels and Materials Examination Facility (FMEF), could afford considerable cost savings, as determined by the National Academy of Sciences and DOE's 1996 cost estimate. The current cost analysis is in conflict with those previous analyses. This disregard for the true overall costs of plutonium disposition will be detrimental in attempting to obtain sufficient funding levels for this and other important DOE activities, including cleanup at Hanford and all Department of Energy sites. 1

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

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

SLADE GORTON
UNITED STATES SENATOR

WAD20

WAD20–1 **Cost**

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

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

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

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

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

Dear Secretary Richardson:

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

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

We do not disagree that cleanup efforts remain the priority at Hanford, however, we fear that the Department's decision is fiscally irresponsible and the decision to eliminate Hanford as an alternative location will most certainly impact the future availability of cleanup funding. Since Hanford has an exiting multi-purpose facility know as the Fuels and Materials Examination Facility (FMEF), more than $300 million could be saved if plutonium disposition activities were located there. Time is critical in reducing the availability of excess weapons-grade materials, therefore utilization of existing facilities would be beneficial in bringing the disposition project on-line.

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

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WAD03

WAD03–1 **Alternatives**

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

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

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

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

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

In addition, we are becoming increasingly concerned that this same flawed process of analysis will be used in evaluating the use of the Fast Flux Test Facility (FFTF) for interim or back-up tritium production. Again, using this existing, federally-owned facility has the potential to dramatically reduce federal expenditures, freeing additional resources for what we all agree should be Hanford's principal mission: environmental cleanup. Additionally, coming on the heels of the Department's plutonium disposition decision, we need to emphasize that the Department should not make the mistake of granting one site in the DOE complex all of the new missions. That would ignore the significant advantages of diversification and utilization of existing resources that Hanford offers to the nation and the region. Therefore, we expect the FFTF will be treated fairly in the Department's analysis of tritium production needs. 1

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

Sincerely,

SLADE GORTON
United States Senator

DOC HASTINGS
Member of Congress

WAD03

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
RICHARD E. SANDERSON, WASHINGTON, D.C.
PAGE 1 of 14

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

SEP 16 1998

OFFICE OF
ENFORCEMENT AND
COMPLIANCE ASSURANCE

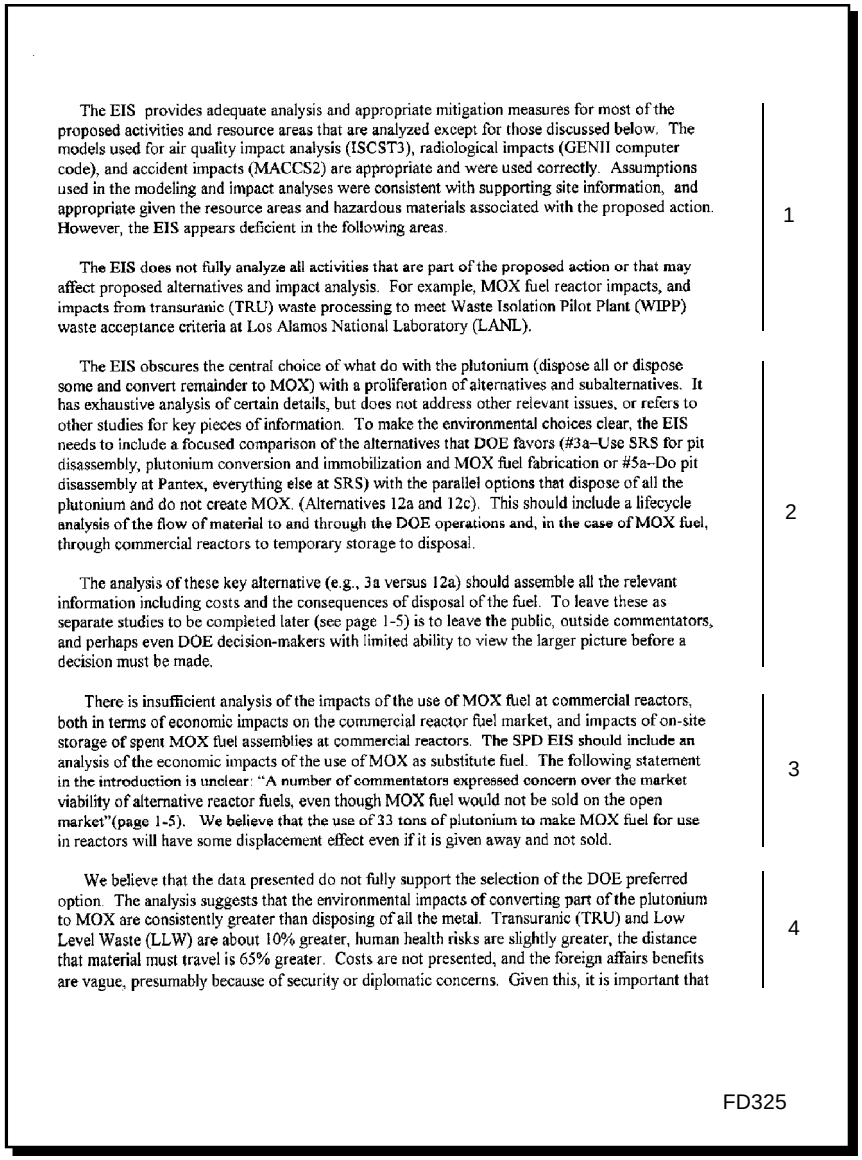
Mr. Howard R. Canter
Acting Director
Office of Fissile Materials Disposition
U.S. Department of Energy
P.O. Box 23786
Washington, DC 20026-3786

Dear Mr. Canter:

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

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

FD325



The EIS provides adequate analysis and appropriate mitigation measures for most of the proposed activities and resource areas that are analyzed except for those discussed below. The models used for air quality impact analysis (ISCST3), radiological impacts (GENII computer code), and accident impacts (MACCS2) are appropriate and were used correctly. Assumptions used in the modeling and impact analyses were consistent with supporting site information, and appropriate given the resource areas and hazardous materials associated with the proposed action. However, the EIS appears deficient in the following areas. 1

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

The EIS obscures the central choice of what do with the plutonium (dispose all or dispose some and convert remainder to MOX) with a proliferation of alternatives and subalternatives. It has exhaustive analysis of certain details, but does not address other relevant issues, or refers to other studies for key pieces of information. To make the environmental choices clear, the EIS needs to include a focused comparison of the alternatives that DOE favors (#3a–Use SRS for pit disassembly, plutonium conversion and immobilization and MOX fuel fabrication or #5a--Do pit disassembly at Pantex, everything else at SRS) with the parallel options that dispose of all the plutonium and do not create MOX. (Alternatives 12a and 12c). This should include a lifecycle analysis of the flow of material to and through the DOE operations and, in the case of MOX fuel, through commercial reactors to temporary storage to disposal. 2

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

There is insufficient analysis of the impacts of the use of MOX fuel at commercial reactors, both in terms of economic impacts on the commercial reactor fuel market, and impacts of on-site storage of spent MOX fuel assemblies at commercial reactors. The SPD EIS should include an analysis of the economic impacts of the use of MOX as substitute fuel. The following statement in the introduction is unclear: "A number of commentators expressed concern over the market viability of alternative reactor fuels, even though MOX fuel would not be sold on the open market"(page 1-5). We believe that the use of 33 tons of plutonium to make MOX fuel for use in reactors will have some displacement effect even if it is given away and not sold. 3

We believe that the data presented do not fully support the selection of the DOE preferred option. The analysis suggests that the environmental impacts of converting part of the plutonium to MOX are consistently greater than disposing of all the metal. Transuranic (TRU) and Low Level Waste (LLW) are about 10% greater, human health risks are slightly greater, the distance that material must travel is 65% greater. Costs are not presented, and the foreign affairs benefits are vague, presumably because of security or diplomatic concerns. Given this, it is important that 4

FD325

FD325–1 **General SPD EIS and NEPA Process**

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

FD325–2 **General SPD EIS and NEPA Process**

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

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

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

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

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

Comparison of Alternative 3 with Alternative 12A at SRS

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

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

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

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

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

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

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

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

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

FD325–3 **MOX Approach**

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

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

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

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

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

FD325–4 **Alternatives**

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

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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the analysis address omitted environmental effects such as fuel disposal (given that MOX has somewhat different chemical and physical properties than typical reactor fuel) and provide a more complete picture of the tradeoffs involved. 4

The overall analysis depends on the use of a number of models including MACCS2 for accident occurrence. Under routine operations the effects of the various alternatives are not great. The key is the plausibility of the probabilities of an accident. The figures given are generally quite low. This may be reasonable, but some explanation of the derivation of the figures would be helpful and would increase confidence in the final result. 5

Based upon our review, we have rated the Draft SPD EIS EC-2, Environmental Concerns - Insufficient Information (see attached Summary of the EPA Rating System). This rating reflects our conclusion that the Final EIS should provide additional information, particularly on alternative analysis for MOX fuel assemblies . Our environmental concerns are based upon the effects on water and ecological resources and the presence of contamination in the existing environment and lack of assurance, based on insufficient information, that the proposed operations, as described, would not lead to further adverse impacts of a similar kind. Our detailed comments are attached. 6

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

Sincerely,

Richard E. Sanderson
Director
Office of Federal Activities

Enclosures

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FD325–5 **Facility Accidents**

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

FD325–6 **General SPD EIS and NEPA Process**

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

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

1. Scope of Analysis
Reference
p.1-6, Section 1.5
P.1-8, Section 1.5
P.4-360, Section 4.27.4.2

Comment
The EIS notes (p.1-6) that additional environmental impact analysis relating to reactor MOX impacts will be included in the Final EIS. The same section of the document also states that R&D activities on potential processes for the disposition of surplus plutonium are ongoing (p.1-8). Recommend that to the extent that R&D activities alter the proposed action and alternatives, or environmental impact analyses, they should also be included in the final EIS. | 7

At each of the sites where TRU waste would be generated (except LANL), facilities are proposed for the processing of the waste to meet WIPP waste acceptance criteria. Potential impacts are then analyzed based on the processing facility. The document states that at LANL the TRU waste processing facilities and location have not been identified and defers to the LANL Site-Wide EIS. Recommend that in the Final EIS environmental impacts for TRU waste processing for WIPP disposal be included based on the information provided in the LANL Site-wide EIS. | 8

2. Ecological Resources
Reference
p. 3-77, Section 3.3.8.1.1

Comment
The section states that "Important game animals that reside at INEEL include roughly 30 percent of Idaho's pronghorn antelope population, sage grouse, mule deer, and elk". It is doubtful that 30 percent of the state's population of pronghorn reside at INEEL. This number of pronghorn have been observed to winter there in the past but are migratory and do not reside at the INEEL. | 9

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

Comment
The cited listings of threatened and endangered species and species of concern omit the mention of plant species listed by the states as rare, sensitive, or plant species of special concern. | 10

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FD325–7 **MOX Approach**

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

FD325–8 **Waste Management**

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

FD325–9 **Ecological Resources**

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

FD325–10 **Ecological Resources**

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

Recommend that the section explain that there are sensitive plant species at the sites however there are no plant species of special concern near the proposed sites at Pantex and INEEL. The impact sections (p.4-319 and 4-325) should indicate that listed or sensitive plant species would *not be impacted*. The most recent listings of Federally listed threatened and endangered species should be obtained from the USF&WS to ensure accuracy. 10

3. Resource Areas
Reference
p. S-21
p. 4-1
pp. 4-311 to 4-336, Section 4.26

Comment
The EIS should provide additional detail and justification for the determination that the proposed actions have no or "minimal" impacts on following resource areas: Geology and Soils, Water Resources, Ecological Resources, Cultural and Paleontological Resources, Land Use and Visual Resources, and Infrastructure. At a minimum, DOE should address how and through what analytical processes such determinations were made. The Additional Environmental Resource Analyses section (pp. 4-311 *to* 4-336, Section 4.26) provides primarily conclusions and determinations without supporting analysis. 11

4. Relationship to Other Actions and Programs
Reference
pp. 1-10 to 1-12, Section 1.7.1

Comment
The EIS should describe why analysis and decisions made in the Storage and *Disposal of* Weapons-Usable Fissile Materials Final Programmatic EIS (S&D) PEIS and ROD are being revisited in this document (e.g. immobilization technology assessment). Also, the S&D PEIS identified SRS as the preferred site for the immobilization facility, but this EIS reconsiders this by looking at Hanford. This could be better explained in Section 1.7.1. 12

5. Description of Alternatives
Reference
p. S-3, S-8, S-10
p. 1-4

Comment
The EIS should more clearly present and describe the alternatives under evaluation. The way that the alternatives are presented is somewhat confusing and complicated. There are 23 alternative configurations for siting but most of those alternatives also include another series of alternatives (not presented as alternatives or mentioned in the cover sheet abstract) regarding lead assembly production sites and PIE sites. For example, p. S-3 and p. 1-4 list additional decisions to be made through the EIS on lead assembly production sites, although the EIS states no preference at this time (p. S-10). It is unclear whether the selection of a PIE site from among two alternatives is 13

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FD325–11 General SPD EIS and NEPA Process

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

FD325–12 Purpose and Need

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

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

FD325–13 Alternatives

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

among the decisions that the DOE intends to make in the ROD. | 13

6. Mitigations
Reference
p. 4-332, Section 4.26.4.4.1

Comment
Many of the mitigations are described in the EIS as ones that "could" be employed, implying that they may help to mitigate impacts but are not formally proposed. Proposed mitigations should be clearly identified as such, both in the EIS and the ROD. In the example referenced, the EIS should be more specific about the direct impacts that are expected if the listed possible mitigations do not occur. | 14

7. Purpose and Need
Reference
p. 1-3, Section 1.2

Comment
The EIS should more clearly explain how the preferred alternative(s) clearly meet the stated goals of fewer environmental impacts and improved proliferation resistance. | 15

8. MOX Fuel Economic Impacts
Reference
pp. 1-5 to 1-6
p. 4-378, Section 4.28

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

9. MOX Fuel Storage Impacts
Reference
p. 2-27, Section 2.4.3
p. 2-58, Section 2.17.1
p. 4-378, Section 4.28

Comment
The Draft EIS currently defers the impact analysis relating to specific reactors to the Final EIS. This may not give adequate opportunity for the public, interested organizations, and government agencies to have their comments on this analysis addressed in the EIS. | 3

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

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FD325–14 **General SPD EIS and NEPA Process**

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

FD325–15 **Purpose and Need**

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

MOX fuel assemblies at commercial reactors. (p. 2-27, Sec. 2.4.3) Issues that should be addressed include whether there is adequate storage capacity at the commercial sites, wet versus dry storage questions (i.e. is dry storage acceptable (may be the only option at many commercial reactor sites) for fuel rods that are "hotter" than usual since MOX will only be irradiated to meet IAEA Spent Fuel Standards). p. 2-58, Sec. 2.17.1 seems to imply pool storage for 6 months. Also, the procedure of only irradiating the MOX fuel assemblies until the IAEA standards are met may generate more spent fuel than usual low-enriched uranium (LEU) (p. 4-378, Sec. 4.28). | 3

10. Transportation
Reference
Appendix L
p. L-23, Section L.6.5

Comment
Transportation analysis in the EIS for all alternatives that require the transport of plutonium pits should address unique security issues (if any) and demonstrate that heightened proliferation resistance will be ensured. Where current DOE transportation methods and carriers are proposed, the EIS should clearly demonstrate that such methods will meet the unique requirements necessitated by transport of weapons grade plutonium spent fuel in order to protect the environment.. | 16

Reference
p. 2-33, Table 2-3

Comment
Additional waste shipments to WIPP, NTS, and/or Yucca Mountain of TRU, LLW, and mixed-LLW wastes generated at the pit conversion facility, immobilization facility, MOX facility, and lead assembly fabrication facility should be considered in the transportation analysis. | 17

11. Health Analysis
Reference
General

Comment
For the human health analysis, the EIS should compare the potential impacts of the proposed actions with applicable DOE, EPA, NRC, and OSHA standards. | 18

12. Safety and Emergency Planning
Reference
General

Comment
It appears as though the potentially significant impacts for the proposed actions are in the area of safety. The EIS should discuss the tailored safety and emergency management plans that have been or will be developed to mitigate the impacts of the various accident and disaster events. | 19

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FD325–16 **Transportation**

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

FD325–17 **Transportation**

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

FD325–18 **Human Health Risk**

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

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

FD325–19 **Facility Accidents**

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

13. Noise Impacts
Reference
p. 4-47, Section 4.4.1.1
pp. 4-329 to 4-332
Appendix F

Comment
The conclusions regarding potential noise impacts for the various alternatives do not appear to be supported by analysis and modeling. For example see SRS impacts at p. 4-47, Sec. 4.4.1.1 and pp. 4-329 to 4-332. 20

14. Event Probabilities
Reference
p. 4-60, Section 4.4.2.6
p. 4-55, Section 4.4.2.5

Comment
The DEIS uses frequency and probability of certain events in the analysis without a description of the methodology used in determining the frequency and probability of those everts. For example, the probability of more severe accidents than those described on p. 4-60 is stated as "1 chance in 10 million per year" and the frequency of the described earthquake on p. 4-55 is "1 in 100,000 and 1 in 10,000,000 per year". 21

15. Site Specific

EPA Region IX review of the SPD EIS focused on a possible Mixed Oxide Fuel (MOX) lead assembly at Lawrence Livermore National Laboratory (LLNL). Page 1-10 of the DEIS states that, at this time, DOE does not have a preference (preferred alternative) for the location of a lead assembly or a Postirradiation facility (PIE). In the FEIS, DOE should identify its preferred alternative for the lead assembly facility and a PIE facility. EPA, Region IX, has rated the section of the DEIS devoted to LLNL as EC-2-- environmental concerns, insufficient information. Our concerns are based on the presence of contamination in the existing environment at LLNL and lack of assurance, based on insufficient information, that the proposed operations, as described, would not lead to further adverse impacts of a similar kind. 22

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

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FD325–20 **Air Quality and Noise**

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

FD325–21 **Facility Accidents**

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

FD325–22 **Lead Assemblies**

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

contamination, in the context of providing assurance to the public that the Proposed Action would not result in additional contamination. Even if reference documentation is provided, the FEIS should provide additional narrative general background information regarding the Superfund site. 22

16. Cumulative Impact

The cumulative impact section of the document is quite brief and appears to de-emphasize the various problems that have historically occurred at the various discussed facilities. Cumulative impacts include incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions (40 CFR 1508.7). Major past or current impacts are discussed under "affected environment"- Chapter 3; however, these impacts (e.g., ground water contamination at Hanford) should be summarized, perhaps in table/matrix format within chapter 4. Chapter 4 should identify the potential affected resources, a geographical area for analysis (scale is resource specific), and expected cumulative impacts. We refer the DOE to the recently completed CEQ guidance entitled *Considering Cumulative Effects*, for ways it can enhance and provide a more meaningful cumulative impacts analysis. 23

17. Radionuclide National Emission Standards

Table 5-1 addresses the National Emission Standards for Hazardous Air Pollutants (NESHAP) (NESHAP) (40 CFR Part 61) but does not discuss the criteria under which the facility would need to apply for permission to construct or modify their operation. While it is unlikely that LLNL would have to formally apply, we would request that LLNL (or another proposed facility) provide EPA with its radionuclide NESHAP review prior to commencing operation. 24

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FD325–23 **Cumulative Impacts**

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

FD325–24 **DOE Policy**

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