

## Chapter 2

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

## **Chapter 3**

### **Comment Documents and Responses on the SPD Draft EIS**

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

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

MAX CLELAND  
SENATOR  
WASHINGTON, DC 20510

COMMITTEE  
ARMED SERVICES  
GOVERNMENTAL AFFAIRS  
SMALL BUSINESS

United States Senate  
WASHINGTON, DC 20510-1005

August 6, 1998

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

Dear Bill:

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

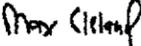
The Savannah River Site (SRS) stands ready to accept all of the Plutonium Disposition missions and in my opinion, should be the site of choice to accomplish these missions. The existing infrastructure, experience, expertise, and demonstrated plutonium processing accomplishments are not found at any other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

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

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

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

Most respectfully,

  
Max Cleland  
United States Senator

SCD46

SCD46-1

Alternatives

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

PAUL D. COVERDELL  
GEORGIA  
CONFERENCE SECRETARY

United States Senate  
WASHINGTON, DC 20510-1004

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

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

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

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

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

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

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

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

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

SCD52

SCD52-1

Alternatives

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

PAUL D. COVERDELL  
GEORGIA

CHAIRMAN  
WESTERN HEMISPHERE SUBCOMMITTEE  
FOREIGN RELATIONS COMMITTEE

United States Senate  
WASHINGTON, DC 20510-1004

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

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

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

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

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

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

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

SCD106

SCD106-1

Alternatives

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

COMMERCE COMMITTEE  
 SUBCOMMITTEES  
 Energy and Power  
 Health and Environment  
 EDUCATION AND THE WORKFORCE  
 SUBCOMMITTEES  
 Community and Environmental Programs  
 Army Caucus  
 Rural Health Care Caucus  
 Sportsmen's Caucus

**Charlie Norwood**  
 10th District, Georgia  
**Congress of the United States**  
 House of Representatives  
 1707 Katquorth Building  
 Washington, DC 20513  
 (202) 223-4101

DISTRICT OFFICE  
 1056 Claxton Road, Suite 226  
 Augusta, GA 30907  
 (706) 734-0888  
 101 N. Jefferson Street, Room 100  
 Dublin, GA 31021  
 (912) 275-2814  
 1776 N. Jefferson Street, Suite B  
 Milledgeville, GA 31061  
 (478) 453-0273  
<http://www.house.gov/norwood>

August 13, 1998

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

Dear Mr. Secretary:

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

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

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

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

The Honorable Bill Richardson

SCD17

PRINTED ON RECYCLED PAPER

### SCD17-1

### Alternatives

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

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

August 13, 1998  
Page 2

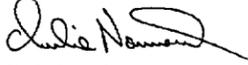
One concern I do have with the Environmental Impact Statement (EIS) for the program is that it does not adequately address the existing facilities and processes at SRS – especially in the conversion of the plutonium pits to the oxide needed for MOX fuel or immobilization. Therefore, I encourage you to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

1

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

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

Sincerely,



Charlie Norwood  
Member of Congress

SCD17

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

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

1  
SCD17

COMMERCE COMMITTEE  
SUBCOMMITTEES  
Energy and Power  
Health and Environment  
EDUCATION AND THE WORKFORCE  
SUBCOMMITTEE  
Overnight and Investigations  
Arms Control  
Nursing Health Care Council  
Subcommittee on Cancer

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

DISTRICT OFFICES  
1066 Chestnut Road, Suite 226  
Augusta, GA 30907  
(706) 733-7066  
101 N. Jefferson Street, Room 109  
Dublin, GA 31021  
(312) 275-2814  
1776 N. Jefferson Street, Suite B  
Milledgeville, GA 31061  
(312) 453-0273

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

Dear Mr. Secretary:

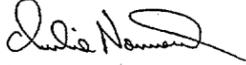
As you know, the citizens of the Central Savannah River Area take great pride in their association with the Savannah River Site (SRS). Unlike other field sites across the country, the support for future missions at SRS is unquestionable.

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

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

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

Sincerely,



Charlie Norwood  
Member of Congress

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SCD76

### SCD76-1

### Alternatives

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

PETER DEFAZIO  
 7TH DISTRICT, OREGON  
 RESOURCES COMMITTEE  
 NAVIGATION,  
 WATER AND POWER RESOURCES,  
 TRANSPORTATION AND  
 INFRASTRUCTURE  
 SUBCOMMITTEE  
 AVIATION  
 SURFACE TRANSPORTATION



**Congress of the United States**  
**House of Representatives**  
 August 18, 1998

PLEASE RESPOND TO:  
 1204 BLYDENHURST HOUSE, D.C. BLDG.  
 WASHINGTON, DC 20515-7704  
 202-225-6414  
 181 W. 11TH AVE., 400E  
 EUGENE, OR 97401-2402  
 541-486-8733  
 1-800-548-6902  
 128 W. GAINWAY AVE.  
 SUITE 300  
 OREGON BLDG., OR 97429  
 541-326-7809  
 P.O. BOX 2460  
 PORTLAND, OR 97208-0511  
 503-444-5522  
 Peter.DeFazio@mail.house.gov

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

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

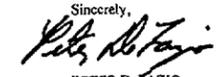
Dear Mr. Canter:

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

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

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

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

Sincerely,  
  
PETER DEFAZIO

ORD04

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**ORD04-1**

**Alternatives**

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

**ORD04-2**

**MOXRFP**

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

ELIZABETH FURSE  
1ST DISTRICT, OREGON  
CONSTITUENT  
COMMENCEMENT  
SUBCOMMITTEE ON  
ENERGY AND POWER  
SUBCOMMITTEE ON  
HEALTHY ENVIRONMENT  
SUBCOMMITTEE ON  
FINANCY AND HAZARDOUS MATERIALS

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

OREGON OFFICE  
MONTEGARY FARM  
3701 NW VALLEY, #890  
PORTLAND, OR 97112-4291  
(503) 226-8601  
TOLL FREE 800-422-4022  
FAX (503) 276-5566  
WASHINGTON OFFICE  
318 CONGRESS BUILDING  
WASHINGTON, DC 20515  
(202) 771-0909  
FAX (202) 225-5493  
e-mail: Rep.Elizabeth.Furse@russ.house.gov  
www.house.gov/furse/

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

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

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

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

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

ELIZABETH FURSE  
Member of Congress

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ORD10

ORD10-1

General SPD EIS and NEPA Process

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

ORD10-2

Alternatives

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

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

**Strom  
Thurmond**  
U. S. Senator South Carolina



Press  
Release

Contact: John DeCrosia  
Press Secretary

(202) 224-7730  
For Immediate Release

**DoE Must Take Next Step at SRS**

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

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

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

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

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

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

SCD77

#### SCD77-1

#### Alternatives

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

STROM THURMOND  
SENATOR

COMMITTEE  
ON ENVIRONMENTAL QUALITY  
AND PUBLIC UTILITIES

PRESIDENT PHOTOGRAPH  
UNITED STATES SENATE

Strom Thurmond

WASHINGTON, DC 20540-5001

June 23, 1998

The Honorable Federico E. Peña  
Secretary  
Department of Energy  
Ferroval Building  
1000 Independence Avenue, S.W.  
Washington, DC 20580

Dear Secretary Peña:

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

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

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

SCD77

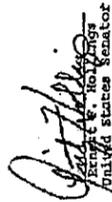
will result in greater efficiency.

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

Selecting SRS to take on the plutonium disposition mission is the right decision for DOE and SRS has the trained personnel, the equipment, infrastructure, and community support to carry out this mission. No other site can make such a program should be sited at SRS. Selecting any other site would be costly, technically risky, and short-sighted.

With kindest regards and best wishes,

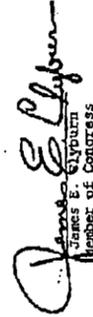
Sincerely,

  
Ernest F. Hollings  
United States Senator

  
Strom Thurmond  
United States Senator

  
Floyd D. Spence  
Member of Congress

  
John M. Spratt, Jr.  
Member of Congress

  
James E. Clyburn  
Member of Congress

  
Bob Inglis  
Member of Congress

  
Mark Sanford  
Member of Congress

  
Mark Sanford  
Member of Congress

SCD77

STROM THURMOND  
SOUTH CAROLINA

COMMITTEES  
ARMED SERVICES, CHAIRMAN  
JUDICIARY  
VETERANS AFFAIRS

United States Senate  
WASHINGTON, DC 20510-1001

August 13, 1998

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

Dear Mr. Rudy:

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

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

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

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

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

1

SCD44

SCD44-1

Alternatives

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

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

3-16

capabilities.

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

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

With kindest regards and best wishes,

Sincerely,  
*Strom Thurmond*

Strom Thurmond

ST/jd

SCD44

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

*Things going well in the capital?*  
Good evening, my name is Maury Lane. I work

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

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

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

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

Why is SRS the right choice? Because the community

1

SCD16

SCD16-1

Alternatives

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

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

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

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

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

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

SCD16

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

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

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

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

SCD16

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

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

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

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

SCD16

saw it his way.

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

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

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SCD16

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

1

SCD16



**LINDSEY GRAHAM**  
By District, South Carolina  
ECONOMIC AND REGIONAL  
OPPORTUNITIES COMMITTEE  
NATIONAL SECURITY COMMITTEE  
INTERNATIONAL RELATIONS COMMITTEE  
1401 LINDSEY O. GRAHAM BUILDING  
WASHINGTON, DC 20515  
202-225-2001

**Congress of the United States**  
**House of Representatives**  
Washington, DC 20515-4003  
June 18, 1997

**DISTRICT OFFICE:**  
P.O. Box 4128  
304 E. Main Street  
Aiken, SC 29801  
803-884-2441  
100 Peoples Building  
Spartanburg, SC 29161  
803-535-2811  
2000 Main Street, N.E.  
Atlanta, GA 30324  
404-527-2001

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

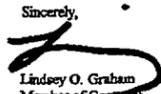
Dear Dr. Fiori:

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

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

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

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

Sincerely,  
  
Lindsey O. Graham  
Member of Congress

LOG:rst

SCD105

SCD105-1

Alternatives

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

**FLOYD D. SPENCE**  
 2408 RAYBURN HOUSE OFFICE BUILDING  
 WASHINGTON, DC 20515-4000  
 (202) 535-2400  
 FAX: (202) 276-1754

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

June 19, 1997

COMMITTEES:  
 NATIONAL SECURITY  
 VETERANS' AFFAIRS

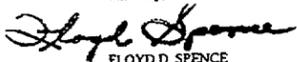
Mr. Howard R. Canter  
 Acting Director  
 Office of Fissile Materials Disposition  
 United States Department of Energy  
 Post Office Box 23786  
 Washington, D.C. 20026-3786

Dear Mr. Canter:

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

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

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

Sincerely,  
  
 FLOYD D. SPENCE  
 Member of Congress

U.S. GOVERNMENT PRINTING OFFICE: 1997 O 380-100

SCD107-1

**Alternatives**

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

Comment Documents and Responses—Federal

3-25

SCD107

AUG 13 1998 10:17AM

*Jim Pantex  
DOE officials  
Cong. Norwood*

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

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

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

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

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

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

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

1

SCD18

SCD18-1

Alternatives

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

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

-2-

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

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

Another significant factor to consider is that of safety. The SRS is acknowledged as the safest Department of Energy site, with the best plutonium handling safety record at the *any of* <sup>1</sup> Department's facilities. The American public recognizes that there are serious risks related to the handling of plutonium. Therefore, it is vital that a specially trained and experienced work force be entrusted with this responsibility. The SRS has such a work force.

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

SCD18

3-27

-3-

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

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

In conclusion, it is clear that the SRS has the complete range of infrastructure and a highly skilled work force to meet the needs of the pit disassembly and conversion mission. Also, the SRS has an outstanding record of safety and efficiently handling plutonium, since the 1950's.

In making a final decision in this matter, I urge the Department to carefully consider the impressive capabilities of the SRS. The Surplus Plutonium Disposition Conversion Program, as well as the associated commitments that have been obtained through this series of public meetings, should serve the Department well in this regard. As in the assessment that led to the Department's decision to locate the MOX Facility at the SRS, I am convinced that, when completely evaluated on its merits, the SRS is the logical choice to be the site for the pit disassembly and conversion mission. Thank you for providing me with this opportunity to address this issue today.

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SCD18

KAY BAILEY HUTCHINSON  
TEXAS

COMMITTEE:  
APPROPRIATIONS,  
CONTRACT, SCIENCE,  
AND TRANSPORTATION,  
RULES AND ADMINISTRATION

United States Senate  
WASHINGTON, DC 20510-4904

August 11, 1998

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

Attention: Mr. Bert Stevenson, NEPA Compliance Officer

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

Dear Mr. Stevenson:

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

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

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

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

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

Web: <https://www.senate.gov/~hutchison/>  
Internet: [transenator@hutchison.senate.gov](mailto:transenator@hutchison.senate.gov)

TXD52

TXD52-1

General SPD EIS and NEPA Process

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

TXD52-2

Alternatives

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

TXD52-3

Alternatives

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

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

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

3

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

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

Sincerely,

  
PHIL GRAMM  
United States Senator

  
KAY BAILEY HUTCHISON  
United States Senator

TXD52

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



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

COMMITTEE ON  
NATIONAL SECURITY

COMMITTEE ON  
RESOURCES

JOINT ECONOMIC  
COMMITTEE

MAC THORNBERRY  
13th DISTRICT  
TEXAS

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

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

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

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

1

412 Cannon Hall  
Washington, DC 20515-1213  
(202) 725-3256

724 Smith Plaza, Suite 400  
Austin, TX 78701  
(800) 371-8814

811 S. W. 81st St., Room 120  
Wesley, FL 32091  
(904) 337-2641

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

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

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

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

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

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

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

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

2

3

TXD04

TXD04-2

Transportation

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

TXD04-3

DOE Policy

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

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

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

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

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

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.

  
**Congress of the United States**  
House of Representatives  
August 18, 1998

MAC THORNBERRY  
17th District  
Texas

COMMITTEE ON  
NATIONAL SECURITY  
COMMITTEE ON  
RESOURCES  
JOINT ECONOMIC  
COMMITTEE

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

Dear Laura,

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

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

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

Sincerely,  
  
Mac Thornberry  
Member of Congress

WMT:ac

1

217 Constitution Ave  
Washington, DC 20515-4212  
1202 775-7718

124 South Park, Suite 400  
Amarillo, TX 79101  
806 371-7884

811 South Street, Suite 100  
Wichita Falls, TX 76701  
817 767-0641

MD148

MD148-1

Human Health Risk

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

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

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

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

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

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

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

SLADE GORTON  
UNITED STATES SENATOR

WAD20

**WAD20-1**

**Cost**

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

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

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

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

Dear Secretary Richardson:

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

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

We do not disagree that cleanup efforts remain the priority at Hanford, however, we fear that the Department's decision is fiscally irresponsible and the decision to eliminate Hanford as an alternative location will most certainly impact the future availability of cleanup funding. Since Hanford has an existing multi-purpose facility known as the Fuels and Materials Examination Facility (FMEF), more than \$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 existing or new facilities on-line and determine the most expeditious and economical way to proceed. It is obvious by the selection of the preferred alternatives that the Department did not consider either costs or timing. Additionally, the EIS does not appear to accurately reflect cost comparisons of the alternatives. This disregard for overall costs of plutonium disposition will be detrimental in attempting to

WAD03

#### WAD03-1

#### Alternatives

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

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

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

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

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

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

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

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

Sincerely,

  
SLADE GORTON  
United States Senator

  
DOC HASTINGS  
Member of Congress

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 21786  
 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).

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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 to 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

#### General SPD EIS and NEPA Process

FD325-1

DOE acknowledges the commentator'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.

#### General SPD EIS and NEPA Process

FD325-2

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

<sup>a</sup> 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<sub>10</sub>), and sulfur dioxide, and for the 8-hr averaging period for carbon monoxide.

<sup>b</sup> Values are based on a construction period of approximately 3 and 10 years of operation.

<sup>c</sup> Values are for the peak year of construction for each site and for the annual operation of all facilities for each alternative.

<sup>d</sup> Values represent the total land disturbance at each site from construction and operations.

<sup>e</sup> 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.

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

<sup>g</sup> 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.

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

FD325

FD325-5

Facility Accidents

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

FD325-6

General SPD EIS and NEPA Process

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

U.S. EPA Detailed Comments Surplus Plutonium Disposition Draft EIS	
<p><b>1. Scope of Analysis</b>  <u>Reference</u>                      p.1-6, Section 1.5                      P.1-8, Section 1.5                      P.4-360, Section 4.27.4.2</p> <p><u>Comment</u>                      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&amp;D activities on potential processes for the disposition of surplus plutonium are ongoing (p.1-8). Recommend that to the extent that R&amp;D activities alter the proposed action and alternatives, or environmental impact analyses, they should also be included in the final EIS.</p> <p>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.</p> <p><b>2. Ecological Resources</b>  <u>Reference</u>                      p. 3-77, Section 3.3.8.1.1</p> <p><u>Comment</u>                      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.</p> <p><u>Reference</u>                      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</p> <p><u>Comment</u>                      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.</p>	<p>7</p> <p>8</p> <p>9</p> <p>10</p>
FD325	

3-45

**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.

Comment Documents and Responses—Federal

<p>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&amp;WS to ensure accuracy.</p>	10
<p><b>3. Resource Areas</b>  <b>Reference</b>          p. S-21          p. 4-1          pp. 4-311 to 4-336, Section 4.26</p> <p><b>Comment</b>          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.</p>	11
<p><b>4. Relationship to Other Actions and Programs</b>  <b>Reference</b>          pp. 1-10 to 1-12, Section 1.7.1</p> <p><b>Comment</b>          The EIS should describe why analysis and decisions made in the Storage and Disposal of Weapons-Usable Fissile Materials Final Programmatic EIS (S&amp;D) PEIS and ROD are being revisited in this document (e.g. immobilization technology assessment). Also, the S&amp;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.</p>	12
<p><b>5. Description of Alternatives</b>  <b>Reference</b>          p. S-3, S-8, S-10          p. 1-4</p> <p><b>Comment</b>          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</p>	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
<b>6. Mitigations</b> <u>Reference</u> p. 4-332, Section 4.26.4.4.1	
<u>Comment</u> 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
<b>7. Purpose and Need</b> <u>Reference</u> p. 1-3, Section 1.2	
<u>Comment</u> 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
<b>8. MOX Fuel Economic Impacts</b> <u>Reference</u> pp. 1-5 to 1-6 p. 4-378, Section 4.28	
<u>Comment</u> 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.	
<b>9. MOX Fuel Storage Impacts</b> <u>Reference</u> p. 2-27, Section 2.4.3 p. 2-58, Section 2.17.1 p. 4-378, Section 4.28	3
<u>Comment</u> The Draft EIS currently defers the impact analysis relating to specific reactors to the Final EIS. This may not give adequate opportunity for the public, interested organizations, and government agencies to have their comments on this analysis addressed in the EIS.	
The EIS should analyze the impacts of storage (at least until Yucca Mountain is open) of spent	
	FD325

**FD325-14**

**General SPD EIS and NEPA Process**

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

**FD325-15**

**Purpose and Need**

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

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
<b>10. Transportation</b> <u>Reference</u> Appendix L p. L-23, Section L.6.5	
<u>Comment</u> 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
<u>Reference</u> p. 2-33, Table 2-3	
<u>Comment</u> 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
<b>11. Health Analysis</b> <u>Reference</u> General	
<u>Comment</u> 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
<b>12. Safety and Emergency Planning</b> <u>Reference</u> General	
<u>Comment</u> 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
FD325	

**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.

<p><b>13. Noise Impacts</b>  <u>Reference</u>          p. 4-47, Section 4.4.1.1          pp. 4-329 to 4-332          Appendix F</p> <p><u>Comment</u>          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.</p>	20
<p><b>14. Event Probabilities</b>  <u>Reference</u>          p. 4-60, Section 4.4.2.6          p. 4-55, Section 4.4.2.5</p> <p><u>Comment</u>          The DEIS uses frequency and probability of certain events in the analysis without a description of the methodology used in determining the frequency and probability of those events. For example, the probability of more severe accidents than those described on p. 4-60 is stated as "1 chance in 10 million per year" and the frequency of the described earthquake on p. 4-55 is "1 in 100,000 and 1 in 10,000,000 per year".</p>	21
<p><b>15. Site Specific</b></p> <p>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.</p> <p>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</p>	22

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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
<b>16. Cumulative Impact</b>	
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 <i>Considering Cumulative Effects</i> , for ways it can enhance and provide a more meaningful cumulative impacts analysis.	23
<b>17. Radionuclide National Emission Standards</b>	
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
FD325	

**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.

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

1

PD003

3-53

PD003-1

General SPD EIS and NEPA Process

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

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

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

**GE Stockholders' Alliance**  
*for a sustainable nuclear-free future*

September 14, 1998

5349 W. Bar X Street  
 Tucson, AZ 85713-6402  
 Phone: (520) 908-9269  
 Fax: (520) 908-9273

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

**Chair**

Patricia T. Birnie

**Board of Advisors**

E. Cooper Brown

National Committee to

Resist Nuclear Power

Michael Closson

Center for Economic

Policy

Scott Denman

State Energy

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National Coalition to the

Eliminate

Judith H. Johnson, Ph.D.

Environmental Coalition

on Nuclear Power

Charles Kormanoff

Nuclear Energy

Association

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Information

Paul L. Leventhal

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Institute

Michael Mariotte

Nuclear Information and

Resource Service

Arthur Mithoff, M.D.

Physician for Social

Responsibility

Grisby Morgan-Hubbard

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Center for Health

Promotion

J. Andy Smith III, Ph.D.

National Institutes

of Health

John Surr

Children's

Advocate

Faith Young

Energy

People, Inc.

Technical Advisor

Marvin Resnikoff

Radioactive Waste

Management Association

Methods for Identification

Purpose Only

Dear Officials:

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

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

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

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

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

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**FD317-1**

**Cost**

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

**FD317-2**

**MOX Approach**

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

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

3

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

4

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

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

5

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

6

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

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

7

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

8

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

9

FD317

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

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

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

#### FD317-3

#### Nonproliferation

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

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

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

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

**FD317-4**

**Air Quality and Noise**

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

**FD317-5**

**Facility Accidents**

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

**FD317-6**

**Facility Accidents**

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

**FD317-7**

**Alternatives**

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

**FD317-8****Immobilization**

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

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

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

Page 3. Office of Fissile Materials Disposition

September 14, 1998

participation in MOX utilization. We feel that this EIS is incomplete for not including this review as part of your report. 9

If immobilization for ALL of the surplus plutonium is chosen, the costs and risks would obviously be much lower since neither the MOX fuel fabrication facility, nor the plutonium polishing process (the report did not say that gallium must be removed for the immobilization process), nor the Lead Assembly fabrication facility would be required, nor would the DOE have to subsidize the chosen reactors' maintenance, operations and enhanced security for the duration of the MOX fuel use. This would save not only money, but would create less environmental pollution, less radioactive waste, and less worker exposure/public exposure, and cost less for eventual decontamination and decommissioning of facilities since fewer facilities would be involved. The report did not state whether the DOE would be responsible for the decommissioning of the reactors chosen for MOX utilization, but I would assume it would be a part of the agreement required by any utility choosing to be a part of the SPD mission. 10

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

If nuclear disarmament progresses as proponents advocate, there will be great quantities of additional surplus plutonium that will also need disposal. This SPD covers only surplus weapons plutonium disposal. What is to become of the huge and growing quantities of plutonium which has been separated by reprocessing from commercial irradiated fuel...and which may never be used as fuel in commercial reactors? 11

In this report I found no clear delineation of the roles and jurisdictions of the Nuclear Regulatory Commission and the Department of Energy for SPD. This is a crucial matter to be resolved before starting on any part of the process. 12

Respectfully Submitted,



Patricia T. Birnie, Chair

FD317

FD317-10

Alternatives

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

FD317-11

DOE Policy

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

FD317-12

NRC Licensing

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



OFFICE OF  
INTERGOVERNMENTAL  
SERVICES  
PHONE: (501) 682-1814  
FAX: (501) 682-5209

STATE OF ARKANSAS  
DEPARTMENT OF FINANCE AND ADMINISTRATION  
P.O. BOX 2278  
LITTLE ROCK, AR 72203

September 4, 1998

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

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

Dear Sir:

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

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

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

Sincerely,

Tracy L. Copeland, Manager  
State Clearinghouse

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

0001N

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MD154

MD154-1

General SPD EIS and NEPA Process

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



Arkansas  
Soil and Water  
Conservation Commission

J. Randy Young, P.E.  
Executive Director

101 EAST CAP TOL  
SUITE 350  
LITTLE ROCK, ARKANSAS 72201

PHONE 501-682-1611  
FAX 501-682-3581

MEMORANDUM

TO: Mr. Tracy Copeland  
Manager, State Clearinghouse

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

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

DATE: August 26, 1998

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

The opportunity to comment is appreciated.

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

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SEP 03 1998  
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STATE CLEARINGHOUSE

surplus

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OFFICE OF  
INTERGOVERNMENTAL  
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STATE OF ARKANSAS  
DEPARTMENT OF FINANCE AND ADMINISTRATION  
P.O. BOX 3278  
LITTLE ROCK, AR 72203-0278

PHONE (501) 682-074  
FAX (501) 682-328

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

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

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

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

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

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

Signature Joseph Boyette Agency ASWCC Date 8/11/98

0173W

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ARKANSAS DEPARTMENT OF FINANCE AND ADMINISTRATION  
TRACY L. COPELAND  
PAGE 4 OF 7

Surplus Plutonium Disposition Final Environmental Impact Statement

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98 AUG 18 PM 2:55  
STATE OF ARKANSAS  
DEPARTMENT OF FINANCE AND ADMINISTRATION  
SOIL & WATER COMM. P.O. BOX 3278  
M.F.A. Bldg. 2201 M  
JUL 24 1996  
EXECUTIVE DIRECTOR'S OFFICE

OFFICE OF INTERGOVERNMENTAL SERVICES  
PHONE (501) 682-1074  
FAX (501) 682-3228

TO: All Technical Review Committee Members  
FROM: Tracy L. Copeland, Manager - State Clearinghouse  
DATE: July 23, 1996  
SUBJECT: SURPLUS PLUTONIUM DISPOSITION DRAFT ENVIRONMENTAL IMPACT STATEMENT (SUMMARY) JULY 1996 - NOTE: SHOULD YOU NEED MORE INFORMATION PLEASE CONTACT THE PHONE NUMBER IN THIS MATERIAL.

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

Signature: *Cathy Jones* Agency: *Lake Tourism* Date: *8/10/98*

0173N  
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30 AUG -6 PM 11  
STATE OF ARKANSAS  
DEPARTMENT OF FINANCE AND ADMINISTRATION  
SOIL & WATER CONSERVATION  
P.O. BOX 3278  
LITTLE ROCK, AR 72203-0278

RECEIVED  
A.H.T.D.  
ENVIRONMENTAL  
DIVISION

TO: All Technical Review Committee Members  
FROM: Tracy L. Copeland, Manager - State Clearinghouse  
DATE: July 23, 1998  
SUBJECT: SURPLUS PLUTONIUM DISPOSITION DRAFT ENVIRONMENTAL IMPACT STATEMENT(SUMMARY)  
JULY 1998 - NOTE: SHOULD YOU NEED MORE INFORMATION PLEASE CONTACT THE  
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- Support
- Do Not Support (Comments Attached)
- Comments Attached
- Support with Following Conditions
- No Comments
- Non-Degradation Certification Issues (Applies to PCB/E Only)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signature Bill Roberts Agency AWTD Date 8/1/98

0173N

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OFFICE OF  
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PHONE (501) 682-1074  
FAX (501) 682-3200

STATE OF ARKANSAS  
DEPARTMENT OF FINANCE AND ADMINISTRATION  
P.O. Box 3278  
Little Rock, Arkansas 72203

RECEIVED

JUL 23 11 03 AM '98

TO: All Technical Review Committee Members  
FROM: Tracy L. Copeland, Manager - State Clearinghouse  
DATE: July 23, 1998  
SUBJECT: SURPLUS PLUTONIUM DISPOSITION DRAFT ENVIRONMENTAL IMPACT STATEMENT (SUMMARY)  
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- Support
- Do Not Support (Comments Attached)
- Comments Attached
- Support with Following Conditions
- No Comments
- Non-Degradation Certification Issues (Applies to PC&E Only)

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

0173W

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MD154

- ① Comments on DOE/EIS-0283-D Volume 1 Part A  
[Melvin S Coops] 5/20/98 Pages 2-27-2-31
- 1) Document states "Plano Box Facilities (2-7)", therefore I assume the processes will be largely manipulation operations.
- 2)  $^{240}\text{Pu}$  has a SFY<sub>2</sub> of  $1.32 \times 10^{14}$  years (total) = 4540 years  
therefore emits 2,503 fissions/min/gram  
6% WG Pu = 60 g/kg =  $150 \times 2.5 \times 10^6 = 375 \text{ fissions/kg}$  (63%<sup>2500</sup>) fast neutrons
- 3) Additionally  $^{239}\text{Pu}$  emits  $1.38 \times 10^{14}$  d/a/kg ( $2.3 \times 10^{12}$  d/s/kg)  
(1.38)  $^{239}\text{Pu}$  emits  $\sim 1/2 \times 10^6$  so about  $1.5 \times 10^6$  n/s/kg emitted  
 $\therefore$  approx neutron emission per kg of  $\text{PuO}_2 = 10^6 \text{ n/s/kg}$   
these neutrons are fast, about 2.5 MeV energy.
- 4) All elements except Li emit a capture gamma ray ranging from 2.2 MeV (H) to 5.5 MeV (Fe), when absorbing a neutron (capture usually from thermal neutrons).  
Li generates a tritium and helium atom from capture (large resonance at 200 keV)  $^6\text{Li} + n \rightarrow ^3\text{H} + ^4\text{He}$  and does not emit a capture gamma ray.
- 5) Heavy concrete walls act as neutron scatterers, and when close to the neutron source, increase the local neutron flux (operating area) by a large value, i.e. experience at RFT showed that operating man and glove boxes with ~2 kg metal WGFA parts caused workers to receive greater than allowable DOE exposure in 4-5 hours. This situation will be much worse for personnel handling Pu oxide in kilogram quantities.

IDD01

IDD01-1

MOX Approach

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

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

(2)

6) That in one of the reasons that the weapons laboratories store plutonium as metal, not oxide, other reasons for storing Pu as METAL!!

1. That is the form recovered from weapons
2. The density is 16 or 19.4, not about 5 to 6 for oxide, and is much more compact
3. No oxide present means no  $\alpha$  neutrons
4. Can easily remove the daughter from Pu (decay) by vacuum distillation.

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

8) Wolfgang Stoll (AKA "the Plutonium Pope" in Germany) gave a presentation at LLNL K16 where he described the flaws in the Siemens MOX facility that prevented even start-up of the facility. The neutron fields in the operating area was a major reason for cancelling operation. This was due to the designer's attempt to minimize cost (facility size) by placing the walls close to the operating glove boxes.

IDD01

3

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

1

10) Other neutron-related problems-

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

2

IDD01

#### IDD01-2

#### MOX Approach

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

④

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

3

IDD01

## IDD01-3

## MOX Approach

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

\*Harrison's units\*

"The Plutonium Pope" - Wolfgang Stoll (WU 4106)  
Siemens RW MOX facility - neutron emission  
Stoll is now: Institute for Industrial  
Environment, in Germany.

- Spontaneous fission neutron emission 2.5 n/ev

$R_{240} SF \frac{1}{2} = 1.32 \times 10^{14} \text{ grams} = 2.509 \text{ NO}^4 \text{ fissions/min/gram}$   
 $\text{total } T \frac{1}{2} = 6,540 \text{ years}$   
 $R_{240} \text{ (A) } = 5.8 \times 10^{14} \text{ (n/kg)}$   
 $\text{A } \frac{1}{2} = 24,100 \text{ years } T \frac{1}{2}$   
 $\text{A } \frac{1}{2} \text{ (total) } = 1.38 \times 10^{14} \text{ n/kg}$   
 $\text{Oxide} = X.3 \text{ or more}$   
 $\text{Oxide} = X.3 \text{ or more}$   
 $\text{Oxide} = X.3 \text{ or more}$

- Store and ship as metal gelum Haselbe, LANC
  - Because that is what is in water pipes
  - The density is 16 → 19.4 (that is 10) new compact
  - No oxide present no (SIN)
  - Can remove Am 241 by vacuum distillation (growth from 14-yr Pz 241)

- Facility -
  - needs to have a N neutron absorption measuring spectrum of neutrons 2.5 n/ev → then don't place "MNF" areas near areas where quantities of Pz 241 reside - activation of GEL(1) detectors, and high SF gamma background.

IDD01

East Bay Peace Action  
P.O. Box 6574,  
August, 1998  
Albany EM 94706  
-0574  
09/14/98

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

Dear Department of Energy:

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

Extend the Public Comment Period for Sixty Days

The Department of Energy is allowing for a sixty day comment period for people to review and provide comments on a large, complex document that references twenty-eight other related NEPA documents, an economic report that not released until July 28, 1998, and numerous "Data Reports."

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

Provide for Additional Public Hearings

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

DOE should add the following hearings to its list:

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

FD198

**FD198-1****General SPD EIS and NEPA Process**

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

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

**FD198-2****General SPD EIS and NEPA Process**

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

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

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

**FD198-3**

**General SPD EIS and NEPA Process**

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

**FD198-4**

**General SPD EIS and NEPA Process**

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

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

6

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

1

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

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

2

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

**FD198-5 Storage and Disposition PEIS and ROD**

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

**FD198-6 Storage and Disposition PEIS and ROD**

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

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

1

PD004

**PD004-1**

**DOE Policy**

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

FD002-1 General SPD EIS and NEPA Process  
DOE acknowledges the commentor's views on this SPD EIS.



*IT IS COARIT - RAOY - CONSTRUCTED  
AND TOTALLY DEVOID OF MERIT*

Department of Energy  
Washington, DC 20585

1988-008753 7/28 11:41

To Interested Parties:

The Department of Energy's Surplus Plutonium Disposition Draft Environmental Impact Statement (EIS) is now available for public review. The formal public comment period for the draft will begin on July 17, 1988 and will close on September 16, 1988.

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

U.S. Department of Energy  
Office of Plutonium Disposition  
P.O. Box 23786  
Washington, D.C. 20526-2786

Or by calling 1-800-520-1314.

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

The public meetings will be held between the dates of August 4, 1988 and September 16, 1988. The dates, times, and locations of these meetings will be held, and will include arrangements to provide an opportunity for discussion and comment. Registration for the meetings is requested. For your convenience, pre-registration may be accomplished by fax, electronic bulletin board, or a toll-free telephone number. Please refer to the pre-registration form on the back of this letter for specific meeting dates, times, locations, and registration instructions.

After the comment period on the draft EIS has closed, the Department will evaluate all comments received. The final EIS will incorporate changes to the draft and will include responses to all comments. The final EIS will be completed in late 1988 and will be

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

Sincerely,

*Howard R. Chubb*  
Howard R. Chubb  
Acting Director  
Office of Plutonium Disposition

Enclosure



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FD002

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

1

PD061

**PD061-1**

**Transportation**

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

9/16/98

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

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

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

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

MD238

MD238-1

Nonproliferation

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

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

MD238-2

Transportation

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

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

**MD238-3**

**Alternatives**

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

**MD238-4**

**DOE Policy**

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

**MD238-5**

**Environmental Justice**

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

**MD238-6**

**Alternatives**

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

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

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

7

Sincerely,  
Scott Hatfield - various environmental,  
peace, and scientific groups  
Scott Hatfield  
PO Box 15421  
Boulder CO  
80308-8421

MD238

MD238-7

DOE Policy

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

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

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

1

PD049

**PD049-1****Alternatives**

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

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

**Rocky Mountain Peace and Justice Center**

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

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

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

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

DOE identifies three preferred alternatives for disposition of plutonium:

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

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

- 1) The SPDEIS does not demonstrate the need or benefit of a dual track disposition strategy. | 2
- 2) The SPDEIS does not adequately consider the costs associated with a dual track plutonium disposition caused by public opposition to the MOX option. | 3
- 3) The SPDEIS does not provide a rationale for directing only 17 tons of plutonium toward immobilization. | 4

FD323

**FD323-1**

**General SPD EIS and NEPA Process**

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

**FD323-2**

**Purpose and Need**

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

**FD323-3**

**Cost**

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

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

#### FD323-4

#### Alternatives

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

4) The SPDEIS analyzes only the disposition of 50 tons of surplus plutonium. According to the SPDEIS, "The three facilities would be designed so that they could collectively accomplish disposition of up to 50t (55 tons) of surplus plutonium over their operating lives..." (p. 1-6) It is probable that significantly more plutonium will be declared surplus during this time frame. This needs to be anticipated in the design of current disposition alternatives. 5

5) The SPDEIS does not adequately analyze the impact of a significant delay or the failure of one track of the disposition strategy on the goal of accomplishing timely disposition. 6

6) The SPDEIS fails to analyze immobilization at more than one site. 7

7) Proprietary information in bids for MOX fuel fabrication does not allow the public to fully assess the impact of this work. 8

The Rocky Mountain Peace and Justice Center urges the Department of Energy to redo the SPDEIS. It should analyze the impact of using the just the MOX option, and just the immobilization option. It should also analyze the possibility of immobilizing plutonium at more than one site, including the Rocky Flats Site. Portable and small scale immobilization technology should be analyzed. It should analyze the possibility of splitting the immobilization steps for the can-in-can process between different sites. That is, explore the possibility of immobilizing the "inside can" at the current storage location. 9

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

FD323

**FD323-5**

**Purpose and Need**

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

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

**FD323-6**

**Purpose and Need**

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

**FD323-7**

**Alternatives**

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

**FD323-8**

**MOX RFP**

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

**FD323-9**

**Alternatives**

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

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

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

SMITH, FRANK W.  
PAGE 1 OF 1

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

10 September, 1998

From: Frank W. Smith

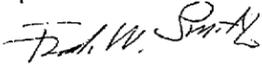
Re: Comment, Surplus Plutonium Disposition (SPD) EIS

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

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

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

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



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

MD166

#### MD166-1

#### MOX Approach

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

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

**THE ROCKY FLATS LOCAL IMPACTS INITIATIVE**

5460 Ward Road, Suite 205  
 Arvada, Colorado 80002

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

August 28, 1998

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

Dear Mr. Canter:

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

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

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

Sincerely,

*Delaine Butterfield*

for Bob Dyer  
 Chair

MD171

**MD171-1**

**Storage and Disposition PEIS and ROD**

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

**MD171-2**

**Transportation**

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

I think the transportation issues have not been adequately treated. Transportation issues could be the show stoppers because this is where you interface with the public. It appears to me to be obvious that from the standpoint of minimizing public risk and minimizing the possible diversion of SNM during transportation, the best option is Pu conversion and MOX at Pantex with Pu Immobilization at SRS to avoid shipping weapons grade materials around the country. It appears, however, that politics is moving MOX to SRS so you haul PuO<sub>2</sub> from TX to SC. For my money I would put PDCF (pits to PuO<sub>2</sub>) and MOX at Pantex, then you would be shipping reactor fuel from Pantex not PuO<sub>2</sub>.

1

WD008

**WD008-1**

**Transportation**

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

FLORIDA COASTAL MANAGEMENT PROGRAM  
CHRIS MCCAY  
PAGE 1 OF 8



STATE OF FLORIDA  
DEPARTMENT OF COMMUNITY AFFAIRS

"Helping Floridians create safe, vibrant, sustainable communities"

LAWTON CHILES  
Governor

JAMES F. MURLEY  
Secretary

September 29, 1998

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

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

Dear Mr. Canter:

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

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

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

Sincerely,

*Chris McCay*  
for Ralph Central, Executive Director  
Florida Coastal Management Program

RC/cc

Enclosures

2555 SHUMARD OAK BOULEVARD • TALLAHASSEE, FLORIDA 32399-2100  
Phone: 850.488.8466/Suncom 278.8466 FAX: 850.921.0761/Suncom 291.0761  
Internet address: <http://www.state.fl.us/comaff/dca.html>

FLORIDA KEYS  
Area of Critical State Concern Field Office  
2796 Overseas Highway, Suite 313  
Marathon, Florida 32950-2127

CRUDA REGION  
Area of Critical State Concern Field Office  
125 East Samsonville  
Lecoma, Florida 32340-6641

SOUTH FLORIDA RECOVERY OFFICE  
P.O. Box 6027  
8605 N.W. 38th Street  
Miami, Florida 33197-6027

MD333

MD333-1

General SPD EIS and NEPA Process

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

**FLORIDA COASTAL MANAGEMENT PROGRAM  
CHRIS McCAY  
PAGE 2 OF 8**

Message: **COMMENTS: STE-2, NRC: 08/28/1998**  
**CLEARANCE: DDC: DATE: 09/21/98**  
**SALT: FLSB081105**

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

**The attached document requires a consistency determination. Management List/Florida Coastal Management Program consistency evaluation and is categorized as one of the following:**  
 Federal Assistance to State or Local Government (16 CFR 920, Subpart F). Agencies are required to evaluate the consistency of the activity.  
 Direct Federal Activity (15 CFR 920, Subpart C). Federal Agencies are required to furnish a consistency determination for the State's concurrence or objection.  
 Other Governmental Activity (15 CFR 920, Subpart E). Other Governmental activity requires a consistency certification for state concurrence/objection.  
 Federal Licensure or Permitting Activity (16 CFR 920, Subpart D). Such projects will only be evaluated for consistency when there is not an analogous state license or permit.

**Project Description:**  
 Department of Energy - Sugar Plantation Disposition Deed Environmental Impact Statement - Florida.

**To:** Florida State Clearinghouse  
 Department of Community Affairs  
 2545 Shiloh Oak Boulevard  
 Tallahassee, FL 32309-2100  
 (850) 922-5438 / (SC 292-5438)  
 (850) 414-0478 (FAX)

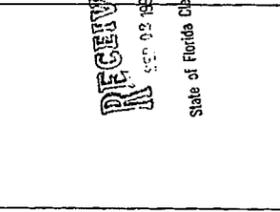
**From:** Florida Division of Forestry  
 Forest Resource Planning  
 & Support Services Bureau  
 3125 Conner Boulevard  
 Tallahassee, Florida 32309-1850

**Reviewer:** *James Eric Boyd*  
**Date:** *9/6/98*

**Federal Consistency**  
 No Comment/Consistent/Comments Attached  
 Comments Attached  
 Inconsistent/Comments Attached  
 Not Applicable

MD333

Message: CLEARANCE EOE DATE: 09/25/1998 FL9808105E  
SALT: OPR POLICY UNITS

STATE AGENCIES	WATER MANAGEMENT DISTRICTS	Environmental Policy & EO
Agriculture Air Quality Environmental Protection Game and Fresh Water Fish Comm OTEED State Transportation		<input checked="" type="checkbox"/> Environmental Policy & EO

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

- Federal Assistance to State or Local Government (15 CFR 933, Subpart F). Agents are required to evaluate the consistency of the activity.
- Direct Federal Activity (15 CFR 930, Subpart C). Federal Agencies are required to determine consistency determinations for the State's concurrence or objection.
- Other Continental Shelf Exploration, Development or Production Activities (15 CFR 930, Subpart E). Operators are required to provide a consistency certification for state concurrence/objection.
- Federal Licensing or Permitting Activity (15 CFR 939, Subpart D). Such projects will only be evaluated for consistency when there is not an analogous state license or permit.

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

EO: 12072NEPA Federal Consistency

No Comment  
 Comments Attached  
 Inconsistent/Comments Attached  
 Not Applicable

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

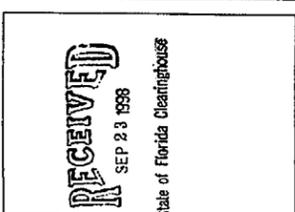
Project Description:  
Evaluation of Safety, Surplus Plutonium Disposition Final Environmental Impact Statement - Florida.

From: Division/Bureau: EDS/OPBEN  
Reviewer: *[Signature]*  
Date: *[Signature]* August 21, 1998

MD333

FLORIDA COASTAL MANAGEMENT PROGRAM  
CHRIS MCCAY  
PAGE 4 OF 8

Message: \_\_\_\_\_ COMMENTS: DUE-3, REC: 09/04/1998  
CLEARANCES: DUE DATE: 09/25/1998  
SALE # : FLS8081105K

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

The attached document requires a Coastal Zone Management Act/Florida Coastal Management Program consistency evaluation and is categorized as one of the following:  
 Federal Assistance to State or Local Government (16 CFR §30, Subpart F).  
 Agriculture and related activities (16 CFR §30, Subpart G).  
 Direct Federal Activity (16 CFR §30, Subpart C).  
 Federal Agencies are required to furnish a consistency determination for the State's concurrence or objection.  
 Outer Continental Shelf Exploration, Development or Production (30 CFR §250, Subpart A).  
 Federal Licensing or Permitting Activity (16 CFR §30, Subpart D).  
 Projects will only be evaluated for consistency when there is not an analogous state license or permit.

**Project Description:**  
Department of Energy - Sulphur Pollution Disposition Draft Environmental Impact Statement - Florida.

**To: Florida State Clearinghouse**  
 Department of Community Affairs  
 2555 Shumard Oak Boulevard  
 Tallahassee, FL 32399-2100  
 (850) 922-5438 (TSC 282-5438)  
 (850) 414-0479 (FAX)

**Federal Consistency**  
 No Comment/Consistent  
 Consistent/Comments Attached  
 Inconsistent/Comments Attached  
 Not Applicable

**From: FDEP**  
 Division/Bureau: SEASONAL MGT/OIP  
 Reviewer: Chris D. Wally  
 Date: 7/21/18

MD333

Message: VOTED/1998  
09/25/1998  
CLEARANCE DATE: SALE: FL98081105

STATE AGENCIES	WATER MANAGEMENT DISTRICTS	OTHER POLICY UNITS
<p><b>DEPARTMENT OF COMMUNITY AFFAIRS</b>                  AGRICULTURE                  COMMUNITY AFFAIRS                  ENVIRONMENTAL PROTECTION                  HEALTH                  HUMAN RESOURCES                  LABOR                  NATURAL RESOURCES                  OCCUPATIONAL SAFETY AND HEALTH                  SENIORS                  STATE AGENCIES</p> <p style="text-align: center;">AUG 18 1998 State of Florida Clearinghouse</p>	<p>Environmental Policy &amp; ED</p>	<p>RECEIVED BY GFC                  AUG 14 1998                  OFFICE OF                  STATE/ENVIRONMENTAL SERVICES</p>
<p>The attached document requires a Coastal Zone Management Act/Florida Coastal Management Program consistency evaluation and is categorized as one of the following:</p> <p>— Federal Assistance to State or Local Governments (15 CFR 930, Subpart F);                  — Direct Federal Activity (16 CFR 930, Subpart G); Federal Agencies are required to evaluate the consistency of the activity;                  — Other Federal Activity (16 CFR 930, Subpart H); Federal Agencies are required to evaluate the consistency of the activity;                  — Other Continental Shelf Exploration, Development or Production Activities (15 CFR 930, Subpart E); Operators are required to provide a consistency certification for state concurrence/objection.                  — Federal Licensing or Permitting Activity (15 CFR 930, Subpart D); Such projects will only be evaluated for consistency when there is not an analogous state license or permit.</p>		
<p><b>To: Florida State Clearinghouse</b>                  Department of Community Affairs                  2555 Shumard Oak Boulevard                  Tallahassee, FL 32309-2100                  (850) 922-5438 (SC 292-5438)                  (850) 414-0479 (FAX)</p>		
<p><b>Federal Consistency</b></p> <p>ED-12372NEPA</p> <p><input checked="" type="checkbox"/> No Comment  <input type="checkbox"/> Comments Attached  <input type="checkbox"/> No Comment  <input type="checkbox"/> Comments Attached  <input type="checkbox"/> Inconsistent/Comments Attached  <input type="checkbox"/> Not Applicable</p>		
<p><b>Project Description:</b>                  Department of Energy - Surplus Plutonium Disposition Final Environmental Impact Statement - Florida.</p>		
<p><b>From:</b> Division/Bureau: <u>Office of Environmental Policy Services</u>                  Reviewer: <u>Blair Bennett</u>                  Date: <u>8/17/98</u></p>		

MD333

Message: CLEARANCE DUE DATE: 09/25/1998  
SLIP#: FL9603105K

STATE AGENCIES	WATER MANAGEMENT DISTRICTS	OTHER POLICY UNITS
Agriculture Community Affairs Environmental Protection Game and Fresh Water Fish Comm Health State Transportation <input checked="" type="checkbox"/>		Environmental Policy/C & ED  <div style="text-align: center;"> <p><b>RECEIVED</b></p> <p>SEP 01 1998</p> <p>State of Florida Clearinghouse</p> </div>

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

- Federal Assistance to State or Local Government (16 CFR 930, Subpart F).  
 Agencies are required to evaluate the consistency of the activity.
- X Direct Federal Activity (15 CFR 930, Subpart C). Federal Agencies are  
 required to furnish a consistency determination for the State's  
 concurrence or objection.
- Outer Continental Shelf Exploration, Development or Production  
 Activities (16 CFR 930, Subpart G). Operations are required to provide a  
 consistency determination for the State's concurrence or objection.
- Federal Activities on Public Lands (16 CFR 930, Subpart B). Such  
 projects will only be evaluated for consistency when there is not an  
 analogous state license or permit.

**Project Description:**  
 Department of Energy - Surface Pollution  
 Disposition Data Environment Impact  
 Statement - Florida.

**To: Florida State Clearinghouse**  
 Department of Community Affairs  
 2895 Shilpine Oak Boulevard  
 Tallahassee, FL 32309-2100  
 (850) 922-5438 (SC 292-3438)  
 (850) 414-0479 (FAX)

**EO: 12127/NEPA** Federal Consistency

**From:** Division/Bureau: OTTE-D  
 Reviewer: Deborah  
 Date: 8/27/98

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

MD333

MESSAGE: 06/25/1998 06/25/1998  
CLEARANCE DATE: 07/27/1998  
SAL: FL98081105

STATE AGENCIES: Agriculture  
Community Affairs  
Environmental Protection  
OTTEB  
OTTEB  
X State  
X Transportation

WATER MANAGEMENT DISTRICTS: NONE IN FL

DPI POLICY UNITS: Environmental Policy & ED  
AIFLA  
SAT-DOE-DEIS  
98 SAH  
RECEIVED BUREAU OF HISTORIC PRESERVATION  
AUG 19 PH 12:01

The attached document requires a Coastal Zone Management Act/Florida Coastal Management Program consistency evaluation in categories as one of the following:  
 - Direct Federal Activity (16 CFR 330, Subpart F). Agencies are required to evaluate the consistency of the activity.  
 - Direct Federal Activity (15 CFR 330, Subpart C). Federal Agencies are required to furnish a consistency determination for the State's concurrence or objection.  
 - Consensus/Shared Exploration, Development or Production Activity (15 CFR 330, Subpart D). Federal Agencies are required to provide a consistency certification for state concurrence/objection.  
 - Federal Licensing or Permitting Activity (15 CFR 330, Subpart D). Such projects will only be evaluated for consistency when there is not an analogous state license or permit.

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

To: Florida State Clearinghouse  
Department of Community Affairs  
2485 Shattuck Oak Boulevard  
Tallahassee, FL 32399-2100  
(850) 922-9438 (SC 252-9438)  
(850) 414-0479 (FAX)

EO: 12127/NEPA Federal Consistency  
 No Comment  
 Comments Attached  
 Not Applicable  
 No Comment/Consistent  
 Consistent/Comments Attached  
 Inconsistent/Comments Attached  
 Not Applicable

From: Division Bureau: WESLEY R. BOULDER  
 Reviewer: Steve Lee Laura R. Kemmer  
 Date: 8/25/98 8-25-98

MD333

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

Message: \_\_\_\_\_ DATE: 09/25/1998  
 SUBJECT: FL98081101

STATE AGENCIES	WATER MANAGEMENT DISTRICTS	OPER POLICY UNITS
Applications Community Affairs Environmental Protection Game and Fresh Water Fish Comm State <input checked="" type="checkbox"/> Transportation		Environmental Policy/PC I ED

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

Federal Assistance to State or Local Government (16 CFR §30, Subpart F). Agencies are required to evaluate the consistency of the activity.  
 Direct Federal Activity (16 CFR §30, Subpart G). Federal Agencies are required to furnish a consistency determination for the State's concurrence or objection.  
 Outer Continental Shelf Exploration, Development or Production Activities (16 CFR §30, Subpart E). Operators are required to provide a consistency determination for the State's concurrence or objection.  
 Federal Land Activity (16 CFR §30, Subpart C). Such projects will only be approved for consistency when there is not an analogous state license or permit.

**Project Description:**  
 Department of Energy - Surplus Phosphorus Deposition Draft Environmental Impact Statement - Florida.

**To: Florida State Clearinghouse**  
 Department of Community Affairs  
 2555 Shumard Oak Boulevard  
 Tallahassee, FL 32389-2100  
 (850) 922-5438 (T) (850) 292-5438 (F)

**EO: 12172/NEPA**

**Federal Consistency**  
 No Comment  
 Comments Attached  
 Not Applicable  
 No Comment/Consistent  
 Consistent/Comments Attached  
 Inconsistent/Comments Attached  
 Not Applicable

**From:** Division/Bureau: Environmental Mgt. Office  
**Reviewer:** Louis Reis  
**Date:** 8/24/98

MD333

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

PD057

PD057-1

MOX Approach

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

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

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

**I am Larry Sconyers, Mayor of Augusta**

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

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

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SCD51

**SCD51-1**

**Alternatives**

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

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

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

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

2

SCD51

**future. SRS stands ready to accept that  
responsibility and this community stands behind  
that readiness. Our support for SRS is second  
to none any where in the DOE complex.**

**Secretary Pena saw this in his visit here last  
December and we look forward to Secretary  
Richardson visiting us in the very near future.**

3

SCD51

1

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

1

4

SCD51

3-105

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

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SCD51

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

2

6

SCD51

SCD51-2

**General SPD EIS and NEPA Process**

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

**Location of Pit Disassembly and Conversion**

**work at SRS is not just about jobs. It is the**

**right thing to do for our nation and its**

**taxpayers. I encourage DOE to make the**

**correct decision.**

**Thank you for this opportunity to express my**

**comments and support.**

7

SCD51

SCD51-3

Other

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

**RESOLUTION**

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

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

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

**WHEREAS**, use for all parts of the plutonium disposition mission, including pit disassembly and conversion, can save taxpayers at least \$1.5 billion based on avoided costs of new structures and equipment that would be required at other DOE sites.

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

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

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

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

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

The Augusta Commission

By *Larry E. Sconyers*  
As its Mayor

ATTEST:  
*Alana J. Thomas*  
As its Clerk

SCD51

RESOLUTION

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

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

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

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

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

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

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

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

  
Representative Ben Allen

  
Representative George F. DeLoach

SCD84

SCD84-1

Alternatives

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

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



JACK CONNELL  
Speaker Pro Tem

House of Representatives  
Savannah, Georgia 30134

P. O. Box 306  
Augusta, Georgia 30903  
Telephone: 706/723-4742

Room 340  
State Capitol  
Atlanta, Georgia 30334  
Telephone: 404/486-0224

June 19, 1997

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

Dear Mr. Canter:

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

Clearly, the SRS should be the choice for the plutonium mission based on what is best for the citizens of our country. While it is certainly important to our local area, my utmost concern is for this selection to be based on cost-effectiveness, safety for the workers, public environmental concerns, and for the betterment of our national security . . . and the SRS unquestionably meets all of these requirements.

SRS has the only large-scale plutonium processing facility in the country. From strictly a business standpoint, why would you spend the dollars to duplicate their capabilities at another location and additional dollars to transport components to the SRS? It is only logical to keep all the plutonium handling operations at one site. Further, the SRS has maintained a good safety record for more than 40 years with the technical and operating staff experienced in plutonium handling.

I hope the DOE will consider all of the advantages that the SRS has to offer.

Sincerely,

Jack Connell, Speaker Pro Tem  
Chairman, Augusta-Richmond County Legislative Delegation

JC/dl

1

SCD81

SCD81-1

Alternatives

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

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

3-111

Comment Documents and Responses—Georgia



**Question/ Information  
Request Card**

Name: Sam Booker

Address: 4387 Roswell Dr  
Arquita, Ga 30907

Phone: 706 863-2324 Fax: 706 863-2324

E-mail: sbooker@aei.com

Question/ Request: while I am very pleased  
with new missions coming to SRS, I am  
concerned that there will be a rush to  
develop on land outside the industrial zone

For further information contact:  
U.S. Department of Energy, Office of Future Materials Disposition, MD-4  
Forrestal Building, 1000 Independence Ave., SW, Washington, D.C. 20585  
1-800-620-5156

SCD88

SCD88-1

Ecological Resources

DOE acknowledges the commentor's concern regarding natural wildlife habitat and recognizes the importance of protecting the ecological resources at SRS. To accommodate the proposed surplus plutonium disposition facilities, the fence in F-Area would need to be moved to incorporate more land. However, this parcel of land has been previously disturbed by past actions. Prior to construction, the proposed site would be surveyed for nests of migratory birds and consultations with USFWS and the South Carolina Department of Natural Resources would ensure that any appropriate mitigation actions would be implemented as needed to protect sensitive habitat or species.

on land in the Buffer Zone that to date  
is still ecologically important and never  
been paved over or had roads built  
over.

Please make every effort to not  
sacrifice our Natural Wildlife Habitat in  
your effort to bring new jobs to SRS

I hope you share my beliefs  
that both can be done without harm  
Sam Booker

SCD88

This is Nancy Buss calling from Atlanta, Georgia. I just wanted to say that I think that the MOX fuel facilities do not sound like a good idea. It seems to me that we should be getting rid of all nuclear fuel plants because so far we have not found any good way to contain the waste products. I think the Department of Energy would do much better to put its resources and expertise behind solar power and things, wind power and things like that that can be renewed and are passive power sources, as far as contaminating the environment. Thank you very much.

1

PD047

**PD047-1**

**MOX Approach**

DOE acknowledges the commentor's opposition to the MOX approach. By fabricating MOX fuel from surplus plutonium, the United States is not encouraging domestic or foreign commercial use of plutonium as an energy source. Consistent with the U.S. policy of discouraging the civilian use of plutonium, a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, the facility would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the facility would be shut down at the completion of the surplus plutonium disposition program.

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

Through various programs in addition to the surplus plutonium disposition program, DOE is engaged in innovative technology development for energy production.

This is Emily Calhoun. I am a resident of Banks County, Georgia. I am calling to protest the proposal to allow utility companies to generate electricity from plutonium. That stuff is too hot to handle. It is highly radioactive. It is very dangerous. It should be immobilized. It should certainly not be used as fuel. We should develop renewable energy sources. Thank you.

1

PD053

**PD053-1**

**Alternatives**

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

Through various programs in addition to the surplus plutonium disposition program, DOE is engaged in innovative technology development for energy production.



CAMPAIGN  
 FOR A  
 PROSPEROUS  
 GEORGIA

COMMENTS REGARDING THE SURPLUS PLUTONIUM DISPOSITION  
 DRAFT ENVIRONMENTAL IMPACT STATEMENT

Submitted on behalf of Campaign for a Prosperous Georgia  
 September 16, 1998

Campaign for a Prosperous Georgia is a ratepayer-based organization working state-wide in Georgia on electricity issues to strengthen the economy and to protect the environment now and for future generations.

In making comments on the Draft Environmental Impact Statement, we bring attention to several issues which our organization urges the Department of Energy to address before proceeding any further with the mixed-oxide fuel experiment.

- 1) Consider the impacts of mixed-oxide fuel on individual commercial reactors. Until this is done, and it needs to be done up-front during the Environmental Impact Statement process, the EIS is not completed. 1
- 2) It is our understanding that none of the reactors in the country, including the Southeast region, were designed to accommodate mixed-oxide fuel. We also understand that generation of electricity with mixed-oxide fuel is an untried experiment and that nowhere in the world has mixed-oxide fuel using plutonium from warheads been used. In Europe, process plutonium that was never put in a warhead was used. We also understand that the use of mixed-oxide fuel from warhead plutonium increases the wear and tear on a reactor. This needs to be addressed as it relates to decommissioning plans, decommissioning costs, and public safety. 2
- 3) We understand that utilities or utility consortiums are looking to receive a "free" plutonium subsidy from the federal government for mixed oxide fuel generation. Issues such as "Whose money is this?" and "Will utilities be paid twice for the same kilowatt-hour—once by ratepayers and once by the government or taxpayers?" need to be addressed. At the public meeting in Augusta which our organization representatives attended, the Department of Energy response to the subsidy question was that utilities will not pass any costs of using mixed-oxide fuel onto ratepayers. With all due respect, we have heard that kind of statement before. Unfortunately, lack of sound cost estimates associated with the construction of nuclear plant Vogtle at the Savannah River Site resulted in the worst and most serious rate hike Georgians have ever experienced. 3
- 4) The Department of Energy needs to address the ways in which a mixed-oxide fuel subsidy unfairly advantage certain companies in a competitive utility market. 4

1087 AUSTIN AVENUE NE • ATLANTA, GEORGIA 30307 • 404 659 5675 • FAX 404 659-5676

FD315

FD315-1

MOX Approach

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

FD315-2

MOX Approach

Although no domestic, commercial reactors use MOX fuel, several are in fact designed to do so, and others can easily and safely accommodate a partial MOX core. Electricity is generated from MOX fuel in Europe, and a demonstration of the process was conducted in the United States in the early 1970s. While plutonium from warheads may never have been used in MOX fuel, its behavior in fuel is essentially the same as that of non-weapons-grade plutonium, and thus does not present a situation different from the MOX fuel experience to date. Reactor-grade and weapons-grade plutonium are chemically indistinguishable. The difference is isotopic: there is less plutonium 239 (and therefore more plutonium 240) in reactor-grade plutonium than in plutonium that was produced for use in weapons. However, since plutonium 240 is not fissile, it is the amount of plutonium 239 that dominates criticality concerns. MOX fuel, regardless of the origin of the plutonium, has a higher flux than LEU fuel, and thus can cause more wear on the reactor than LEU fuel. However, this is taken into account when developing fuel management strategy. Section 4.28 was revised to include reactor-specific analyses, including accident analyses, for the reactors proposed to irradiate MOX fuel.

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

**FD315-3**

**MOX Approach**

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

The MOX approach is not intended to affect the viability of nuclear power generation at any particular reactor. DCS does not have to continue to use MOX fuel if it determines that it is uneconomical to operate the reactor. This ensures that DOE is not driving the continuation of reactor operations solely for the surplus plutonium disposition program. Furthermore, DCS would

Campaign for a Prosperous Georgia (cont.)

The Department of Energy's proposal to unfairly advantage nuclear energy suppliers through a subsidy is in sharp contradiction to the significant ongoing efforts nationwide to create a "level playing field" for power suppliers in an increasingly competitive utility market.

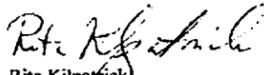
5) Without mixed-oxide fuel subsidies, is the Department of Energy prepared to buy out any mixed-oxide fuel reactors to keep them operating and is the Department of Energy prepared to address taxpayer opposition to government buyout?

6) The issue of who is going to buy electricity generated from mixed-oxide fuel must be addressed. Polls around the country show consistently that when given a preference, the majority of people want to invest in renewable energy and conservation, not fossil fuels and more clearly, not nuclear power.

In conclusion, we urge the Department of Energy to consider more wisely and more strategically a decision of whether to pursue the mixed-oxide fuel experiment at all. In the event the Department requires any background papers which support our above stated concerns, please do not hesitate to contact us at the address of phone number on the first page of these comments.

Further, we request to be informed of the Environmental Impact Statement process for individual commercial reactors.

Respectfully submitted on behalf  
of Campaign for a Prosperous Georgia.

  
Rita Kilpatrick  
Executive Director

FD315

only be reimbursed for costs solely and exclusively related to MOX fuel irradiation. This would ensure that the taxpayers were not underwriting otherwise uneconomical electricity-generating assets.

FD315-4

MOX Approach

This comment is addressed in response FD315-3.

FD315-5

General SPD EIS and NEPA Process

As discussed in Section 2.1.3, if DOE decides to implement alternatives that require MOX fuel fabrication, then the MOX fuel would be irradiated in the Catawba, McGuire, and North Anna reactors. As described in Section 2.4.3.2, MOX fuel is produced with a process similar to that for the production of traditional LEU fuel for commercial power reactors. The use of MOX fuel is intended to be revenue neutral for participating utilities and transparent to their customers. The use of MOX fuel would not be expected to alter the customer base for participating utilities.

MOX fuel would displace traditional LEU fuel in participating reactors. However, the purpose of the alternatives that include MOX fuel would not be to compete with traditional LEU fuel or renewable energy sources. DOE acknowledges the commentor's opposition to the production and use of plutonium. As discussed in Section 1.2, the goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner.

Rev. Vernal Cassir  
Convenor



Dr. Mildred McClain  
Executive Director

September 14, 1998

Mr. G. Bert Stevenson  
NEPA Compliance Officer  
Office of Fissile Materials Disposition  
P.O. Box 23786  
Washington, DC 20026-3786

Dear Mr. Stevenson,

This letter is requesting that the Department of Energy not make a decision regarding the Surplus Plutonium Disposition Draft Environmental Impact Statement without the input of the environmental justice communities. We are aware that the Savannah River Site Citizen's Advisory Board and DOE sponsored their own workshop with over 1,100 community representatives attending. Unfortunately, those who attended the workshop did not represent the People of Color and disenfranchised communities.

We believe that the, September 16, 1998 comment period ending date for the Surplus Plutonium Disposition Draft Environmental Impact Statement is too soon. This is a formal request for the comment period to be extended beyond its cut off date so that the environmental justice communities, the communities that will directly be affected by this EIS, will be able to make a formal reply.

Working for environmental justice everywhere,

Dr. Mildred McClain  
Executive Director

MM/dle

1119 HADRASHAM STREET • SAVANNAH, GEORGIA 31401 • PHONE: (912) 233-0907 • FAX: (912) 233-5105

FD316

FD316-1

Environmental Justice

A public hearing on the SPD Draft EIS was held in North Augusta, South Carolina, on August 13, 1998. A special outreach effort was made to make "People of Color and disenfranchised communities" aware of the hearing. This was done by advertising in print media and on radio stations recommended by organizations that represent these communities. Further, special transportation support was offered to ensure that members of these communities were able to attend the hearing, and the hearing was held after normal working hours so that they would not have to miss work. Copies of the SPD Draft EIS were mailed to members of these communities, as well as organizations that represent them, in advance of the hearing. In addition to the hearing, DOE provided several other means to solicit comments: mail, a toll-free telephone and fax line, and the MD Web site.

A period of 60 days was allowed for public comment on the SPD Draft EIS, and DOE accepted comments submitted by various means: public hearings, mail, a toll-free telephone and fax line, and the MD Web site. Although it did not extend the comment period, DOE did consider all comments received after the close of that period. All comments were given equal consideration and responded to. As shown in Chapter 4 of Volume I, implementation of the alternatives for disposition of surplus plutonium at SRS would likely pose no significant risk to public health regardless of the minority and economic status of individuals in the population. Chapter 4 also includes Environmental Justice sections for all alternatives on the potential impacts on minority or low-income populations. Appendix M describes the process that was used to determine these impacts.

Rev. Verneil Carter  
 Convener



Dr. Mildred McClain  
 Executive Director

October 5, 1998

Mr. G. Bert Stevenson  
 NEPA Compliance Officer  
 Office of Fissile Materials Disposition  
 U.S. Department of Energy  
 P.O. Box 23786  
 Washington, DC 20026-3786

Re: Surplus Plutonium Disposition Draft Environmental Impact Statement DOE/EIS-0283-D

Dear Mr. Stevenson,

Citizens For Environmental Justice (CFEJ) conducted eight workshops on the Department of Energy (DOE) proposed activity associated with the disposition of surplus plutonium, for communities traditionally not involved in the decision-making process related to federal facilities like Savannah River Site (SRS). These workshops held in Augusta, Waynesboro and Savannah in Georgia, and Barnwell and Ridgeland in South Carolina focussed on two areas 1) providing information and 2) gathering input from communities.

The first series of workshops were conducted in August 1997 and the follow-up workshops occurred in September 1998. Two hundred fifty-one people have participated in these workshops.

The concerns and recommendations contained in this document represent the input from primarily African American stakeholders, but also include the views of those from the general community. Input was collected from the workshops, interviews and telephone surveys. Interviews and surveys were conducted with stakeholders unable to attend the workshops, but expressed an interest in having their voice represented in our formal response to DOE on the Surplus Plutonium Disposition Draft Environmental Impact Statement (EIS). Twelve interviews and thirty telephone surveys were conducted.

It is important to note that many stakeholders that we dialogued with expressed two main concerns about the EIS 1) not having enough time to respond to such lengthy, complex

1

1115 HABERSHAM STREET • SAVANNAH, GEORGIA 31403 • PHONE: (912) 333-0907 • FAX: (912) 233-5105

MD332

### MD332-1

### General SPD EIS and NEPA Process

The public comment period on the SPD Draft EIS was extended from 45 days to 60 days. During this comment period, public hearings were held in areas that would be directly affected by implementation of the alternatives. DOE also accepted comments submitted by various other means: mail, a toll-free telephone and fax line, and the MD Web site. The various channels of communication were open to all interested individuals and organizations, and provided for regional and nationwide comment on the EIS. DOE did consider all comments received after the close of that period. All comments were given equal consideration and responded to.

The *Summary* of this SPD EIS provides an overview of the proposed actions and their potential impacts, and Section 2.18 provides, in layman's terms, a summary of impacts by alternative. As discussed in Chapter 4 of Volume I, implementation of the alternatives would pose no significant risk to human health or the environment downstream from the proposed facilities during normal operations.

Plutonium Recommendations Letter  
 Page 2 of 5

documents and 2) a lack of a simplified summary that covered all important elements in layman's terms. Downstream communities also expressed concern over the lack of public meetings being held in their communities. The schedule of public meetings did not encourage the participation and involvement of downstream and downwind communities "that generally bear liabilities, but no economic benefits; and to skew the public opinion curve in favor of DOE proposals".

Regional hearings should have been held in Savannah, Georgia and Columbia, South Carolina. The SRS is the preferred candidate site for all three new plutonium processing facilities. Real impacts on the Savannah River from SRS operations and accidents are well documented, with the most notable being the December 1991 tritium leak that quickly reached Savannah, Georgia. How can DOE justify not holding regional hearings in the Savannah River region? Because of the abundant uncertainties and what is at stake, we strongly recognize "a continued need to subject Federal plutonium proposals to the highest and most rigorous levels of public debate possible".

The National Environmental Policy Act (NEPA) requires federal agencies to insure that high quality "environmental information is available to public officials and citizens before decisions are made and before actions are taken," and that there is substantial and meaningful involvement in the planning and decision process. By restricting public hearings to a few communities and excluding potentially affected communities DOE is violating the spirit and the letter of NEPA.

**Community Concerns**

The following is a list of major concerns expressed by community stakeholders:

- 1. How will the unproven technologies that will be used in the plutonium pit processing facility be tested and validated with public input? | 2
- 2. What increase in tritium emissions would occur as a result of locating a Plutonium Pit Disassembly and Conversion Facility at SRS and what would the impact be on the air and/or water? | 3
- 3. How will DOE collect input from nuclear reactor communities on selection of reactor sites for plutonium irradiation facilities (irradiation of MOX fuel)? | 4
- 4. What will be done to train medical facilities' personnel to handle exposure problems in the event of an accident? Local emergency responders? | 5
- 5. What security measures will be implemented for communities near SRS to protect against possible terrorists attack? | 6

MD332

**MD332-2**

**Pit Disassembly and Conversion**

The technologies to be used in the pit conversion facility are not unproven. They are, for the most part, technologies that have been used for some time by DOE to perform different functions. DOE is now engaged in a demonstration project that will bring these technologies together in one place so that the engineering design and performance parameters of various types of pits can be determined (*Pit Disassembly and Conversion Demonstration EA* [DOE/EA-1207, August 1998]). This would allow DOE to design and operate a pit conversion facility in a safe and efficient manner. Since 1994, the public has been involved in providing input to the decisionmakers on how to proceed with the disposition of surplus plutonium. The pit conversion facility has been part of a large number of environmental reviews and technical, economic, and nonproliferation studies that have been made public and for which DOE has solicited comments.

**MD332-3**

**Air Quality and Noise**

Appendix J was revised to include expected radiological release quantities from the proposed surplus plutonium disposition facilities. Appendix J.4.2.1 presents the expected radiological release quantities for the pit conversion facility at SRS. The radiological impacts on air at SRS are discussed in Section 4.4.2.4 for Alternative 3 and in corresponding sections for the other alternatives. Impacts on water at SRS are discussed in Section 4.26.4.2.

**MD332-4**

**MOXRFP**

The SPD Final EIS was not issued until the proposed reactors had been identified and the public had an opportunity to comment on the reactor-specific information. As part of the procurement process, bidders were asked to provide environmental information to support their proposals. This information was analyzed in an Environmental Critique prepared for the DOE source selection board prior to award of the MOX fuel fabrication and irradiation services contract. DOE then prepared an Environmental Synopsis on the basis of the Environmental Critique, which was released to the public as Appendix P of the *Supplement to the SPD Draft EIS* in April 1999. This *Supplement* included a description of the affected environment around the three proposed reactor sites, and analyses of the potential environmental

impacts of operating these reactors using MOX fuel (Sections 3.7 and 4.28 of this SPD EIS, respectively). During the 45-day period for public comment on the *Supplement*, DOE held a public hearing in Washington, D.C., on June 15, 1999, and invited comments. Responses to those comments are provided in Volume III, Chapter 4.

**MD332-5****Facility Accidents**

As discussed in the Emergency Preparedness sections in Chapter 3 of Volume I, each candidate site has an established emergency management program that would be activated in the event of an accident. Based on the decisions made in the SPD EIS ROD, site emergency management programs would be modified to consider new accidents not in the current program. These modifications would include training medical facilities' personnel and local emergency responders in accordance with DOE Order 151.1, *Comprehensive Emergency Management System*.

**MD332-6****DOE Policy**

In order to address security against terrorist-related incidents, all intersite shipments of plutonium for the surplus plutonium disposition program would be made using DOE's SST/SGT system. This involves having couriers that are armed Federal officers, an armored tractor to protect the crew from attack, and specially designed escort vehicles containing advanced communications equipment and additional couriers. Further, the disposition facilities proposed in this SPD EIS are all at locations where plutonium would have the levels of protection and control required by applicable DOE safeguards and security directives. Site personnel work with local, State, and Federal emergency responders and authorities and have plans and procedures in place to ensure appropriate and prompt coordination of efforts when responding to terrorist threats.

The remainder of this comment is addressed in response MD332-5.

Plutonium Recommendations Letter	
Page 3 of 5	
6. How will the amount of water used from the Savannah River affect communities and the fishing? How would water be cleaned if there was a leak? How would the concept of "containment with the least amount of water" be assured?	7
7. What is the training for transportation personnel and how are they selected?	8
8. Are SRS and DOE prepared for negative outcomes?	9
9. Is adequate funding available for the implementation of all proposals, which includes outreach and public education?	10
10. How will issues associated with transportation be addressed?	
<ul style="list-style-type: none"> <li>• Routes</li> <li>• Community/local government and authorities readiness</li> <li>• Informing communities</li> </ul>	11
11. How will communities monitor the secret transportation routes? How will the communities be alerted?	
12. In what processes will the Savannah River water be used?	7
<b>Other significant concerns include:</b>	
13. Increased exposure to workers, communities, and environment.	12
14. The impact of gallium (corrosion of the metal).	13
15. Health risks.	12
16. Community plans not in place.	5
17. Location of commercial reactors.	14
18. Cost of MOX.	15
19. Community right-to-know.	16
20. Consistency of emergency training.	5
21. Training of youth regarding new technology.	17
22. Public outreach.	18
23. Equity issues.	1
24. Only the voice of stakeholders in favor of processes coming to SRS being heard.	19
25. Politics driving decisions rather than science and technology.	20
26. Criteria for decisions on the pit disassembly facility.	21
	MD332

**MD332-7**

**Water Resources**

As described in Section 4.26.4.2, the proposed surplus plutonium disposition facilities at SRS would not use water from the Savannah River. Groundwater supplied by the central domestic water supply system would be used. There are redundant systems to prevent a release of contaminants from the proposed facilities. In addition, systems are included that continuously monitor for leaks, allowing early detection and response. If an accident were to release contaminants to the environment, containment and then cleanup would be conducted.

**MD332-8**

**Transportation**

DOE's Transportation Safeguards Division is responsible for selecting and training the couriers that operate and escort the SST/SGTs. To be considered for selection as a courier, one must pass a background investigation and receive DOE's highest security clearance, be certified to operate SST/SGTs, possess mental alertness, and meet physical performance requirements. Couriers are initially trained in firearms, tactics, and driving and receive specialized training in physical fitness, communications, radiation, and hazards/detection. The emergency management training for couriers includes the above-mentioned areas and nuclear weapons safety, hazardous materials safety, emergency response training, general firefighting, fire prevention, and explosive hazards.

**MD332-9**

**DOE Policy**

DOE acknowledges the commentator's concern regarding the safety of nuclear materials. Accident analyses for SRS are summarized in the Facility Accidents section in Chapter 4 of Volume I for alternatives that include SRS.

SRS has an emergency management program that includes emergency planning, preparedness, and response in the event of an accident. The Emergency Preparedness Facility at SRS provides overall direction and control for onsite responses to emergencies and coordinates with Federal, State, and local agencies and officials on the technical aspects of the emergency.

**MD332-10****DOE Policy**

Funding for the surplus plutonium disposition program is appropriated annually by the U.S. Congress. DOE, in its 5-year budget plan, has notified both the Office of Management and Budget and the Congress about the funding level required to implement the surplus plutonium disposition program. This budget plan includes funds for maintaining the public outreach program. Since its creation, MD has supported a vigorous public participation policy and will continue to provide the public with information and maintain communication mechanisms (e.g., mail, a toll-free telephone and fax line, MD Web site) to facilitate public input.

**MD332-11****Transportation**

The shipment of nuclear material (e.g., depleted uranium) using commercial carriers would be the subject of detailed transportation plans in which routes and specific processing locations would be discussed. These plans are coordinated with State, tribal, and local officials. The shipment of waste would be in accordance with the decisions reached on the *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste* (DOE/EIS-0200-F, May 1997) and the *WIPP Disposal Phase Final Supplemental EIS* (DOE/EIS-0026-S-2, September 1997).

The transportation of special nuclear materials is the subject of detailed planning with DOE's Transportation Safeguards Division. The dates and times that specific transportation routes would be used for special nuclear materials are classified information; however, the number of shipments that would be required, by location, has been included in this SPD EIS. Additional details are provided in *Fissile Materials Disposition Program SST/SGT Transportation Estimation* (SAND98-8244, June 1998), which is available on the MD Web site at <http://www.doe-md.com> or by calling (202) 586-5368.

The commentor's recommendations are consistent with DOE policy. As part of the development of a transportation plan, details of emergency preparedness, security, and coordination of DOE with local emergency response authorities would be addressed before any hazardous material was shipped. Any additional training or equipment needed would be provided as part of the planning process. In addition to direct Federal assistance to State, tribal, and local governments for maintaining emergency response programs, there are national emergency response plans under which DOE provides

radiological monitoring and assessment assistance. Under these plans, DOE provides technical advice and assistance to the State, tribal, and local agencies who might be involved in responding to a radiological incident. DOE anticipates that transportation of plutonium pits, nonpit plutonium, MOX fuel, and HEU (i.e., special nuclear materials) required to disposition surplus plutonium would be done through DOE's SST/SGT system. Appendix L.3.2 provides a description of this system. As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures or vehicle emissions are expected.

**MD332-12**

**Human Health Risk**

All potential impacts are addressed in detail for each alternative in Chapter 4 of Volume I. The SRS Cumulative Impacts section (Section 4.32.4.4) provides information about incremental exposures that may be associated with surplus plutonium disposition activities.

**MD332-13**

**Plutonium Polishing and Aqueous Processing**

At the time DOE issued the SPD Draft EIS, it believed the gallium content in the plutonium dioxide feed specifications for MOX fuel could be reached using the dry, thermal gallium removal method included in the pit conversion process. However, in response to public interest on this topic and to ensure adequate NEPA review in the event that the gallium specification could not be met with the thermal process, an evaluation of the potential environmental impacts of including a small-scale aqueous process (referred to as plutonium polishing) as part of either the pit conversion or MOX facility was presented in Appendix N of the SPD Draft EIS.

On the basis of public comments received on the SPD Draft EIS, and the analysis performed as part of the MOX procurement, DOE has included plutonium polishing as a component of the MOX facility to ensure adequate impurity removal from the plutonium dioxide in order to eliminate the concern of gallium reacting with the zirconium metal of the MOX fuel rods. Appendix N was deleted from the SPD Final EIS, and the impacts discussed therein were added to the impacts sections presented for the MOX facility in Chapter 4 of Volume I. Section 2.4.3 was also revised to include the impacts associated with plutonium polishing. While it is true that plutonium polishing would

add to the amount of LLW and TRU waste generated, this amount of waste should be a small fraction of the total amount of these waste types generated at the candidate sites. For example, at SRS, which is the preferred site for the MOX facility, the addition of the plutonium-polishing process would be expected to increase the site's projected generation of LLW and TRU waste by less than 1 percent and 2 percent, respectively. Section 4.32.4 discusses the cumulative impacts of the proposed action at SRS; Sections 4.32.1, 4.32.2, and 4.32.3, the cumulative impacts of the proposed action at Hanford, INEEL, and Pantex, respectively.

The commentor is correct in stating that the use of plutonium would require a license modification, but the modifications needed at the reactors and to handle the spent fuel are expected to be small. Any required reactor modifications would, nevertheless, be conducted in accordance with associated NRC license modification procedures. Section 4.28 was revised to provide reactor-specific analyses.

The purpose of the Comment Response Document is to address comments on environmental impact issues considered in this SPD EIS. The portion of this comment relating to cost has been forwarded to the cost analysis team for consideration. The *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, is available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

**MD332-14**

**MOX Approach**

The SPD Final EIS was not issued until the proposed reactors had been identified and the public had an opportunity to comment on the reactor-specific information. As part of the procurement process, bidders were asked to provide environmental information to support their proposals. This information was analyzed in an Environmental Critique prepared for the DOE source selection board prior to award of the MOX fuel fabrication and irradiation services contract. DOE then prepared an Environmental Synopsis on the basis of the Environmental Critique, which was released to the public as Appendix P of the *Supplement to the SPD Draft EIS* in April 1999. This *Supplement* included a description of the affected environment around the

three proposed reactor sites, and analyses of the potential environmental impacts of operating these reactors using MOX fuel (Sections 3.7 and 4.28 of this SPD EIS, respectively). During the 45-day period for public comment on the *Supplement*, DOE held a public hearing in Washington, D.C., on June 15, 1999, and invited comments. Responses to those comments are provided in Volume III, Chapter 4. The reactors selected as a result of the procurement are Catawba in York, South Carolina; McGuire in Huntersville, North Carolina; and North Anna in Mineral, Virginia.

**MD332-15**

**Cost**

This comment is addressed in response MD332-13.

**MD332-16**

**Candidate Sites**

The Emergency Planning and Community Right-to-Know Act is listed in Chapter 5. Activities for the surplus plutonium disposition program would be conducted in accordance with all applicable regulations, including community right-to-know laws.

**MD332-17**

**Other**

The DOE Education in Science, Technology, Energy, Engineering, and Math (ESTEEM) program offers a wide range of technology-, math-, and science-related education programs for students at various grade levels. Information on ESTEEM, including types of activities offered and points of contact, can be obtained on the Web at <http://www.sandia.gov/ESTEEM/home.htm> or by contacting Samuel Rodriguez, Assistant Director of Science for Communications and Science Education and Chair, DOE's ESTEEM Education Council, by email at: [Samuel.Rodriguez@oer.doe.gov](mailto:Samuel.Rodriguez@oer.doe.gov) or by phone at: (202) 586-7141.

**MD332-18**

**General SPD EIS and NEPA Process**

Each of the DOE candidate sites that could be involved in the surplus plutonium disposition program conducts public outreach and education programs in the surrounding communities, and all have a Citizens' Advisory Board.

The remainder of this comment is addressed in response MD332-1.

**MD332-19**

**Environmental Justice**

Per the commentor's recommendation, Section S.7 of the *Summary* was revised to include the results of DOE's analysis of environmental justice concerns. Chapter 4 of Volume I includes Environmental Justice sections, which provide analyses of the potential impacts on minority or low-income populations for each of the alternatives considered. Appendix M describes the process that was used to determine these impacts and gives additional detail on the minority and low-income populations surrounding each of the candidate sites.

**MD332-20**

**DOE Policy**

DOE acknowledges the commentor's concern regarding the drivers in the decisionmaking process for locating the surplus plutonium disposition program at SRS. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

**MD332-21**

**DOE Policy**

DOE acknowledges the commentor's concern regarding the criteria used in the decisionmaking process for locating the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure.

Plutonium Recommendations Letter  
Page 4 of 5

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**Recommendations**

Based on the information presented and the concerns expressed the communities recommend the following:

I. Translate information in the EIS into everyday language.		1
II. Include summary of environmental justice analysis in the Executive Summary.		19
III. Conduct public meetings in all areas where citizens may be affected/conduct special sessions for youth.		18
IV. Work with local community based organizations to conduct outreach and public education activities.		
V. Provide emergency training for communities near selected site and those on transportation routes (police department, fire department, hospitals, Local Emergency Planning Committees, etc.).		5
VI. Train the communities in terminology associated with the E I S		
◆ Spent Nuclear Fuel      ◆ fission              ◆ Pit Disassembly		
◆ plutonium             ◆ disposition        ◆ conversion		1
◆ uranium                ◆ basins/tanks      ◆ reactors		
◆ chemical separations ◆ MOX                ◆ robotics		
VII. Test the technology (MOX)		22
VIII. Create community monitoring panels		18
IX. Provide a detailed analysis of potential impacts on Savannah, GA and other downstream communities. Each community should have a booklet just on its area.		23
X. Notify communities/insure emergency plan.		5
XI. Conduct open public debate on the EIS.		1
XII. Summarize environmental justice analysis in separate document.		19
Finally, our most significant recommendation focuses on the issue of gallium.		
XIII. Potential actions being evaluated by the DOE for surplus plutonium disposition must address the issue of gallium residue in the conversion of plutonium into fuel in civilian reactors. It is reported by nuclear weapons scientists that not only will gallium interfere with the conversion, but will also cause 1) chemical problems after the fuel is used, and add an additional \$200 million (to remove gallium) to the \$1 billion cost to convert the plutonium into fuel.		13

MD332

**MD332-22**

**MOX Approach**

The use of MOX fuel in domestic, commercial reactors is not a new concept. The fabrication of MOX fuel and its use in commercial reactors have been accomplished in Western Europe, and electricity was generated on a demonstration basis in the United States in the late 1970s. Several U.S. commercial reactors were designed to use MOX fuel, and others can easily and safely accommodate a partial MOX fuel core. The lead assemblies for test irradiation would be inserted into selected reactors as part of the fuel qualification program before full-scale operation was undertaken (see Section 2.17).

**MD332-23**

**General SPD EIS and NEPA Process**

This SPD EIS does provide analyses of the potential impacts of implementing each of the alternatives considered. Those analyses show that the disposition of surplus plutonium would have no significant environmental impacts on Savannah, Georgia, or other communities on the Savannah River from normal operations. The *Summary* of the SPD EIS can be used as the suggested booklet.

Symposium  
 June 10, 1998 Clark County Library, Las Vegas Nevada

GEORGIA CAROLINA COURIER



505 Courthouse Lane  
 Augusta, Ga. 30901



July 1998

I. SPOOKED SPOOKED SPOOKED

Top billing for the current spooky story goes to the *Wall Street Journal's* April 28<sup>th</sup>, 1998 headline, "U.S. Admits Its Jets Harmed Horses." This story reported that:

The U.S. conceded that noise caused by its jet fighters injured racehorses in November, during Japan-U.S. military drills off Cape Trino in southern Hokkaido. . . . The bureau said the two governments must jointly compensate owners for the damage in line with the bilateral Status-of-Forces Agreement."

The GAO/NSIAD-98-66, Mar. 2 release *Overseas presence: Issues Involved in Reducing the Impact of the U.S. Military Presence in Okinawa* is also spooky. This story reported that:

A new U.S.-Japanese agreement to reduce the American military presence on Okinawa includes replacing a Marine air station with a new \$4 billion sea-based facility and paid for by Japan. Operating costs for the new facility are estimated at nearly \$200 million a year, much higher than costs for the existing air station. Japan has been asked to pay these costs but has yet to agree. GAO raises the issue of responsibility for cleaning up any environmental contamination at the military facilities being returned to Japan. Also, the construction and operation of the sea-based facility could have harmful consequences for the environment.

Inquiries from our publication regarding these reports directed to Congressman Norwood and copied to Senator Cleland remain unanswered. The U.S. EPA library services reports no information on these reports regarding their

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FD231-1

DOE Policy

DOE acknowledges the commentor's concern regarding NRC regulation of DOE facilities. Because NRC regulations are beyond the scope of this SPD EIS, this comment has been forwarded to the DOE team addressing external regulation and to the DOE Savannah River Operations office.

GEORGIA-CAROLINA COURIER  
PATRICIA C. McCRACKEN  
PAGE 2 OF 8

PAYMENTS TO UTILITIES NO LONGER GENERATING ELECTRICITY

Dairyland Power Coop	Total Payment
Public Service Co. of Colorado	193,000
Sacramento Mun. Util. Dist.	26,000
Yankee Atomic Elec. Co.	1,221,000
Portland General Electric	1,025,000
	<u>5,000,000</u>
<b>GRAND TOTAL*</b>	<b>\$7,473,000</b>

\* Does not reflect utility fee credits. Includes rounding.

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One-Time Fee Outstanding As of 03/31/1998, (\$000)

State	Utility Name	Option	One Time Fee Owed	One Time Fee Interest Owed	TOTAL
Arkansas	Entergy Arkansas	2	49,149	76,033	125,182
Connecticut	Connecticut Yankee	2	48,726	74,810	123,537
Connecticut	Northeast Utilities	2	82,108	126,061	208,169
Illinois	Commonwealth Edison	2	276,792	434,964	701,756
Maine	Maine Yankee	2	50,394	77,959	128,353
Michigan	American Electric Power	2	71,964	111,328	183,292
Michigan	Consumers Power	2	44,286	68,511	112,797
New Jersey	GPU Nuclear	1	47,417	73,354	120,771
New York	New York Power Authority	2	58,710	90,823	149,533
New York	Niagara Mohawk	2	45,499	70,387	115,886
New York	Rochester Gas & Electric	2	33,134	51,258	84,392
Ohio	Toledo Edison	2	8,875	13,750	22,625
Pennsylvania	GPU Nuclear	1	24,150	37,560	61,710
Vermont	Vermont Yankee	2	39,285	60,773	100,058
	<b>TOTAL</b>		<b>850,489</b>	<b>1,357,351</b>	<b>2,207,840</b>

Option 1-Payments over 40 quarters to be completed prior to first scheduled delivery date  
 Option 2-Single payment prior to first delivery

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Exhibit C

§ 961.4

Owner means any person who has title to spent nuclear fuel or high-level radioactive waste.  
Purchaser means any person, other than a Federal agency, who is licensed by the Nuclear Regulatory Commission to use the authority of sections 103 or 104 of the Atomic Energy Act of 1954 (42 U.S.C. 2133, 2134) or who has title to spent nuclear fuel or high level radioactive waste and who has executed a contract with DOE.  
Secretary means the Secretary of Energy or his designee.  
Contract means the contract for disposal of spent nuclear fuel and/or high-level radioactive waste set forth in Article II of the contract which is incorporated in § 961.11. Text of the contract of this part.

**§ 961.4 Deviations.**  
Requests for authority to deviate from this part shall be submitted in writing to the Contracting Officer, who shall forward the request for approval to the Senior Procurement Official, Headquarters. Each request for deviation shall contain the following information:

- (a) A statement of the deviation desired, including identification of the specific paragraph number(s) of the contract;
- (b) A description of the intended effect of the deviation;
- (c) The reasons why the deviation is considered necessary or would be in the best interests of the Government;
- (d) The name of the owner or generator seeking the deviation and nuclear power reactor(s) affected;
- (e) A statement as to whether the deviation is being requested retroactively and if so, circumstances of the previous request;
- (f) A statement of the period of time for which the deviation is needed; and
- (g) Any pertinent background information which will contribute to a full understanding of the desired deviation.

**§ 961.5 Federal agencies.**

Federal agencies or departments requiring DOE's disposal services for spent nuclear fuel and/or high-level radioactive waste will be accommodated by a suitable interagency agreement reflecting, as appropriate, the terms and conditions set forth in this contract

10 CFR Ch. III (1-1-96 Edition)

in § 961.11. *Provided, however,* that the fees to be paid by Federal agencies will be equivalent to the fees that would be paid under the contract.

**Subpart B—Standard Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste**

§ 961.11 Text of the contract.

The text of the standard contract for disposal of spent nuclear fuel and/or high-level radioactive waste follows:

U.S. DEPARTMENT OF ENERGY CONTRACT NO. \_\_\_\_\_

Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste

THIS CONTRACT, entered into this \_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, between the UNITED STATES OF AMERICA, hereinafter referred to as the "Government", represented by the UNITED STATES DEPARTMENT OF ENERGY (hereinafter referred to as "DOE") and \_\_\_\_\_, hereinafter referred to as the "Purchaser", a corporation organized and existing under the laws of the State of \_\_\_\_\_, is made in accordance with the following terms and conditions:

1. **Whereas,** the DOE has the responsibility for the disposal of spent nuclear fuel and high-level radioactive waste of domestic origin, and it is the policy of the DOE to act in order to protect the public health and safety and the environment; and

2. **Whereas,** the DOE has the responsibility, following commencement of operation of a nuclear reactor, to provide for the disposal of high-level radioactive waste involved in such reactor as practicable upon the request of the generator or owner of such reactor; and

3. **Whereas,** all costs associated with the preparation, transportation, and the disposal of spent nuclear fuel and high-level radioactive waste shall be borne by the generator or owner of such fuel and waste; and

4. **Whereas,** the DOE is required to collect a full cost recovery fee from owners and generators of spent nuclear fuel and high-level radioactive waste; and

5. **Whereas,** the DOE is authorized to enter into contracts for the permanent disposal of spent nuclear fuel and high-level radioactive waste of domestic origin in DOE facilities; and

6. **Whereas,** the Purchaser desires to obtain disposal services from DOE; and

Department of Energy

Whereas, DOE is obligated and willing to provide such disposal services, under the terms and conditions hereinafter set forth;

ARTICLE I—PURCHASE

1. The term *assigned three-month period* means the period during which the Purchaser shall be required to accept delivery of the waste for disposal at the Purchaser's assigned preference for purposes of reporting kilowatt hours generated by the Purchaser's nuclear power reactor to DOE.

2. The term *cost* means a containing for shipping spent nuclear fuel and/or high-level radioactive waste means all applicable regulatory requirements.

3. The term *civilian nuclear power reactor* means a civilian nuclear powerplant required to be licensed under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2133, 2133(b)).

4. The term *Commission* means the United States Atomic Energy Commission.

5. The term *contract* means any agreement and any duly amended amendments or modification thereof.

6. The term *Contracting Officer* means the person executing this contract on behalf of the Government, and any other officer or employee who is a properly designated Contracting Officer of the DOE, and the term *Contracting Officer's Representative* means the person authorized to represent the Contracting Officer acting within the limits of his authority.

7. The term *delivery* means the transfer of custody of spent nuclear fuel and/or high-level radioactive waste from Purchaser to DOE at the Purchaser's civilian nuclear power reactor or such other domestic site as may be designated by the Purchaser.

8. The term *disposal* means the emplacement in a repository of high-level radioactive waste, spent nuclear fuel, or other high-level radioactive waste with an irreducible potential for recovery of such waste.

9. The term *DOE* means the United States Department of Energy or any duly authorized officer thereof, including the Contracting Officer.

10. The term *DOE facility* means a facility operated by or on behalf of DOE for the purpose of disposing of spent nuclear fuel and/or

§ 961.11

high-level radioactive waste, or such other facility(ies) to which spent nuclear fuel and/or high-level radioactive waste may be shipped by DOE prior to its transportation to a repository.

11. The term *full cost recovery* means the reimbursement by DOE through Puchaser fees and any interest earned, of all direct costs, overhead, and allocable overhead, consistent with generally accepted accounting principles consistently applied, of providing disposal services and conducting activities authorized by the Nuclear Waste Policy Act of 1982 (Pub. L. 97-425).

12. The term *high-level radioactive waste (HLW)* means—

(a) the highly radioactive material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains radionuclides in sufficient concentrations;

(b) other highly radioactive material that the Commission, consistent with excluding the Commission's responsibilities for permanent disposal, determines by rule requires permanent disposal.

13. The term *electricity (kilowatt hours) generated and sold* means gross electrical output produced by a civilian nuclear power reactor measured at the generator output bus, less the generator service loads during the time the electricity is being generated multiplied by the contract energy adjustment factor by purchase and sale.

14. The term *Year Total Energy Adjustment Factor (YTEAF)* means the sum of individual owners' energy adjustment factors for the year.

15. The term *Contract Energy Adjustment Factor (CEAF)* means the sum of the individual owner's adjustment for sales to ultimate consumers and adjustment for sales for resale.

16. The term *owner's share of the plant (OS)* means the owner's fraction of installed electricity sales, the owner's fraction of plant ownership, or the sponsor company's fixed percentage of the plant's output.

17. The term *DOE facility* means a facility operated by or on behalf of DOE for the purpose of disposing of spent nuclear fuel and/or

Exhibit D

**Historical Nuclear Weapons Test Film Festival**  
*Clark County Library, 1401 E. Flamingo, Las Vegas, NV*

June 10, 1998

- 11:30 a.m. - 12:30 p.m. Footage from Nevada Test Site historical operations -- "Operation Buster/Jangle" and "Operation Tumble-Snapper"
- 12:35 p.m. - 1:25 p.m. Film Set Overview -- 30 to 45 second clips from each video currently available, including the new set of films being released today.
- 1:30 p.m. - 2:15 p.m. Footage from peaceful nuclear explosions in Nevada, New Mexico, and Colorado -- "Nuclear Excavation, Excavating with Nuclear Explosives", "Plowshare", and "Project Rulison".
- 2:25 p.m. - 3:15 p.m. "Atomic Filmmakers" -- Learn about Hollywood's Top Secret film studio and the cameramen who worked the photographing nuclear weapons tests from 1945 until 1963. This video is produced and directed by Peter Kuran, the filmmaker for the award winning motion picture "Trinity and Beyond".
- 3:20 p.m. - 4:10 p.m. "This Little Ship" -- 1952 British film which describes the United Kingdom's first nuclear detonation; "Target Nevada" -- a Lookout Mountain film about the Nevada Test Site; and footage from Civil Defense test operations at the Nevada Test Site including nuclear explosion effects on bomb shelters, electrical substations, propane storage tanks, weigh stations, cars, family houses, and mannequins.
- 4:15 p.m. - 5:00 p.m. Two new films -- "Exercise Desert Rock" and "Tonopah Test Range".
- 5:00 p.m. - 6:00 p.m. BREAK
- 6:00 p.m. - 6:15 p.m. Welcome and introduction of guest speakers -- Pat Badin, Classification Officer, U.S. Department of Energy, Nevada Operations Office.
- 6:15 p.m. - 6:40 p.m. Film Declassification Project -- Charles Demos, Classification Officer, U.S. Department of Energy, Albuquerque Operations Office.
- 6:40 p.m. - 8:00 p.m. Atomic Cinematographers -- Peter Kuran, director/producer of "Trinity and Beyond" showing excerpts from the famous movie, as well as from "Doomtown", and discussing restoration efforts for old, deteriorating films.

*Throughout the day, there will be exhibits, promotional material available, and interactive demonstrations.*

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GEORGIA-CAROLINA COURIER  
PATRICIA C. MCCrackEN, EDITOR  
OFFICE (706) 738-9451  
FAX (706) 738-0637

Exhibit

Nuclear Waste Fund Status  
(Billions of dollars, data as of September 30, 1997)

OCRWM Calculation:

Fees Paid	\$ 8.5
Investment Earnings	\$ 2.6
Total	\$11.1
Disbursements	\$ 4.9*
Net Balance	\$ 6.2

Utility Calculation:

Fees Paid	\$ 8.5
Investment Earnings	\$ 2.6
One Time Fees Accrued:	
Principal	\$ 0.9**
Interest	\$ 1.3**
Defense Fees Owed	\$ 1.0**
Total	\$14.3
Disbursements	\$ 4.9*
Net Balance	\$ 9.4

\* Total NWF disbursements only, does not reflect DNWD disbursements of \$ 7B.  
Total Program costs, including NWF & DNWD funding, through the end of FY 1997  
equal \$5.6B.

\*\* The utility calculation includes one-time fees and interest not yet paid to the Nuclear  
Waste Fund. It also includes the accrued fees that the Department owes to date for the  
disposal of defense high-level waste, based upon cost share computed in the 1995 total  
system life-cycle cost analysis.

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GEORGIA-CAROLINA COURIER  
 PATRICIA McCRACKEN  
 PAGE 1 OF 4

To: Inspector General  
 Department of Justice

From: Patricia McCracken  
 Georgia-Carolina Courier  
 413 Scotts Way  
 Augusta, Georgia 30909  
 706-738-9451  
 fax 738-0637

August 12, 1998

Dear Sir:

The electric consumers of America have not been properly informed regarding the events associated with their Nuclear Waste Fund litigation.

This news organization has previously written to Mrs. Reno regarding the lack of information and legal spokespersons at major nuclear gatherings publicizing and promoting various legal positions that impact our nation. We should not have to depend on the reliability of nuclear tabloid publications or utility attorneys with current litigation against the government for our information.

We have requested press releases from the Justice Department in Washington concerning the Nuclear Waste Fund litigation for quite some time and have been unable to get any information from the press or public relations office. The DOE Internet site could not locate any information with the search word lawsuits, nuclear, etc. Meanwhile, it appears that lawsuits have been very active at the DOE and Justice. Interested persons attending the various public meetings at the DOE would have no reason to contact the Justice Department for information because that information has not been given through the many DOE outreach and public affairs offices.

Perhaps our United States Attorney's office in Augusta needs to represent the consumers and other government interests of our district. At the very least we would want them to review the pleadings, transcripts and decisions regarding electricity consumers. Furthermore, the Department of Energy's public comment documents and Environmental Impact Statements may not contain all the information known to the Justice Department and the Department of Energy because they are not being sent to the proper parties involved.

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FD262-1

Other

DOE acknowledges the commentator's concerns about the NWP. The status of the Nuclear Waste Fund implementation is beyond the scope of this SPDEIS.

The Department of Defense has a law school. They should study this litigation. If the Justice Department has inadequate funding to defend the DOD, DOE and electric consumers then they could help in the endeavor. Some arrangement could be made regarding some payments they apparently owe to the Nuclear Waste Fund.

The consequences of the decision or decisions regarding the Northern States Power Company versus the United States appear to fall under the NEPA laws. We hope that all the information has been presented to the appropriate groups for action and review. This review should also include information gathered in discovery. If that information is being withheld because of litigation, then no Record of Decisions should be made without all the information known to the agencies. We wonder if various agencies have already made some Record of Decisions without all the necessary information to make a proper conclusion.

The General Accounting Office and other Congressional reporting groups seem to differ on the status of the Nuclear Waste Fund. We hope that the Justice Department and our public attorneys have been able to investigate the status of the fund now involved in litigation. We do not believe that the Justice Department has received all the information or proper expert consultation to conduct this case. We would all like to review the positions of our attorneys and how well and courteously they are being treated by our judges at hearings, but apparently no transcripts are available.

Our news organization has been suspicious that the government's funding for our defense may be inadequate. The complexity of the NWF requires much staffing. We are quite puzzled as to some of the information we have received under FOIA requests regarding your litigation connected to the Nuclear Waste Fund. Some of the questions are quite obvious even to an untutored investigator. We certainly hope that our judges are asking some questions.

Our news organization has been seeking the actual legal documents regarding the Northern States Power Company litigation and any other litigation regarding the Nuclear Waste Fund. It appears that the only way to find out what is really going on in these cases. I would appreciate assistance in obtaining the pleadings, transcripts, discovery and decisions regarding these cases. Also we would like to know if the attorneys were citizens of the United States and their qualifications for such an important case.

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3-139

Comment Documents and Responses—Georgia

We have obtained some verbal information that indicates that our government has not been very successful in the courts. Your strategy team might want to set up a task force of US attorneys to help with this strategy.

Our current verbal information regarding the status of the Northern States Power Company versus the United States of America indicates that the appeal time clock is ticking. We hope that our attorneys are clicking around and working on our case. Our appeal brief is due by September 2, 1998. Please check on the status of our legal representation. There may be some new information surfacing regarding this case.

The legal representatives for the Northern States Power Company appear to be rather "cocky" about their position at industry meetings. We would like to be sure that their position is correct.

We have learned that all the necessary information regarding the Nuclear Waste Fund litigation have not been received at the Justice legal department working on the case. We suspect that pertinent evidence lists and other information is not currently available at the Justice department for proper decision making sessions. Please check to see if the agency has all the necessary appeals consultants (and that representation reflects all stakeholders) to make a decision. Would you please expedite the legal departments need for information through some emergency fund. Please make that information available for press releases and the public. And please inform the persons or voice message instigators to have a system for inquiries.

Some persons might want to go and see who is representing the government and what questions were being asked at the proceedings. Today's media might even be interested in our officials fashion mode for litigation.

We would also appreciate some assistance and review of the activities of the Nuclear Regulatory Commission regarding their intent and actions developed from the Memorandum of Understanding Between the U.S. Department of Energy and the U.S. Nuclear Regulatory Commission dated 10/20/97 and the pilot programs external regulation. Portions of our comment dated August 12<sup>th</sup>, Work Plan for the Receiving Basin for Offsite Fuels at the Savannah River Site draft June 25, 1998, under a public comment process states:

The NRC regulations call for antitrust language for Pre-licensing Antitrust Review of Production and Utilization Facilities and to

Effectuate Certain Other Purposes Pertaining to Nuclear Facilities. In accord with the intent of the NRC to facilitate competition, some review is in order to determine the degree in which your agency would become the monopoly for all the commercial and government nuclear facilities under the current activities outlined in the NRC Memorandum of Understanding between the DOE and NRC. Did the antitrust section of the Justice Department give any review of this work? They have historically notified NRC about such action in court cases. The public would like for the NRC to abide by the same guidelines as the Justice Department uses for other nuclear situations.

Some legal findings have even used language that can mean even setting up a situation that might lead to monopolization. This plan is a monopoly report without input from other agencies with responsibility at DOE. NRC is engaging in unfair monopoly reporting power without allowing access of other reports available in the government market or peer review in the proper fields. The appropriations set up a monopoly reporting power structure and the people are not protected from this monopoly. The work plan should be set up to remedy this situation. The NRC can use the same type of remedies that they have recommended themselves to other parties.

We urge the public get relief from the draft plan of the DOE/NRC.

According to some legal opinions, the Atomic Energy Act was amended by Congress to include a procedure whereby the Department of Justice is to notify the NRC if licensing might create or maintain a situation inconsistent with the antitrust laws.

Thank you for the opportunity to report some citizen comments about our government.

FD262

To: DOE/NRC

From: Patricia McCracken  
 413 Scotts Way  
 Augusta, Georgia 30909  
 706-738-9451

Re: Comments to the proposed Pilot Program on External Regulation of DOE Nuclear Facilities by the Nuclear Regulatory Commission and the public presentation of A document called Work Plan for The Receiving Basin for Offsite Fuels at the Savannah River Site Draft June 25, 1998

Without any formal federal register notices to refer for comment, comments can only relate to the handouts from NRC.

The title to this work plan does not reflect the description of the work plan. Your work plan is much more extensive than this title.

One would like to know your distribution list for your draft as those persons such as myself who attend the public meetings (and produce a newsletter) and comment were not on your mailing list. Mr. Robert Newman was contacted and he did not receive a draft for comment. He has made several presentations at the CAB meetings regarding compliance with DOE orders. He asked me to comment on his behalf and remind DOE of his participation at public meetings and the comment process.

The section of the CDC conducting health studies at SRS did not receive your notice for comment.

This fact alone raises some questions as to the persons at SRS and DOE that are supplying information for this report.

The handout does not seem to have the same format as public notice documents such as the federal register. The intent of the NRC to pursue a project at the Department of Energy must have some legal position statements but they have not been presented for public comment.

Appendix D's Authorization Basis does not appear to be complete for the legal scope. We all certainly would like the NRC to look at the antitrust duties of the agency in reviewing some of the activity at SRS and proposed activity at SRS. We need more specific statutory basis to ensure that the agency covers all the issues important to stakeholders. NRC appears to be trying to establish a

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DOE Policy

DOE acknowledges the commentor's concern regarding NRC regulation of DOE facilities. Since NRC regulations are beyond the scope of this SPD EIS and the comments do not directly relate to the surplus plutonium disposition program, this comment has been forwarded to the DOE team addressing external regulation and to the DOE Savannah River Operations office.

monopoly regulatory agency, which would be in violation of its statutory duties.

We believe that you need permission from other agencies to conduct your work. This memorandum of understanding is suspected to be inappropriate for entry into a defense facility, especially with no Corps of Engineers signature.

We need to know the format for the database of information gathered (categorized to match each work plan section like a docket) for public review purposes. The CDC health studies group (SRS) has a format for collection and public review that is quite extensive and might serve as a model for this massive report.

The statutory authority of the NRC is apparently an issue often debated in the courts. Most of this plan (like page D-2 review, approval...fissionable material operations) is defense related and no related oversight persons are part of your task force. Efforts to contact the DOD oversight at Pentagon have been unsuccessful as there is no telephone answer. That could explain the situation.

The Congress has appropriated (special) money for the NRC to conduct some work at the DOE.

Congress has been utilizing the Nuclear Waste Fund consumers payments and interest to fund other projects such as this one. This does not appear to be legal. The DOE apparently borrows money to make payments to the NWF and then invests that money somewhere.

Your work plan and oversight duties should include an explanation of your funding. Is it part of the Nuclear Waste Fund? Please demonstrate that this money is not part of any of the money (with interest) Congress borrowed from the consumer fund.

The work plan presented does not give the signatures of the authorized representatives of each agency. The Memorandum of Understanding between the DOE and NRC is not presented with any signatures. We would like to know if the persons approving the work plan also approved the adequacy of the appropriation to conduct this work. Was the work plan presented to the persons making the recommendations for the money amounts? We would like the references for presentations.

We have made some inquiries as to the existence of documents

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that might relate to the subject matter of the pilot project. Many other sections of our government have some oversight regarding the DOE. We did not see any reference to accumulating any of that information. Surely, some of these groups have looked at the existing regulations in our country and perhaps some comparisons internationally. And surely Congress does not have to appropriate special money to check fire extinguishers. Who is checking them now?

The public through FOIA cannot ask for qualifications (DOE Decision and order case number VFA-0348 to Patricia McCracken) of the contractors and we would like to know if NRC will be able to get restricted information regarding the contracting process. Appendix B mentions some estimates of savings associated with using licensed/qualified subs. This term needs a better explanation.

The statements under potential outcomes is really a big policy change. For example, to seek transition of some or all DOE facilities to NRC regulation prior to completion of the NRC/DOE Pilot Program is definitely something that needs more documentation than this work plan. These types of statements trigger NEPA action. Your report did not address that issue.

Your draft did not address the NRC's ability to handle such a mission. The cart is before the horse. Your draft should be explaining your funding outside the commercial licensing process.

We do not know if your information database is secure. We do not know if you are using contractors and if any conflict of interest may exist. We do not know who has access to your reports. Are these reports suppose to be part of the classification system? You apparently have written several reports regarding other sites but no one is allowed to review your work. Stakeholders around SRS might want to review your work.

We do not understand how you are able to come to a defense facility and propose a review of receipt, transfer and inventory of radioactive materials. Please give some exact procedures for this task. Please site the names of the reports you will be using as manuals.

Section J concerns radioactive waste management including effluents and environmental monitoring. This work plan does not give the credentials of the persons or procedures as outlined in the federal register or what. Who will be doing such highly "science specific" assessments. It is

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difficult to believe that the task force presented has all the qualifications to conduct such a massive study. OSHA persons might want to include NIOSH persons already doing work at the site.

The work plan leaves out a lot of details that are vaguely mentioned in the MOU which was not attached to the work plan. Of special importance is the MOU explanation of coordination activities. "DOE and NRC agree to enter into an interagency Agreement to reimburse NRC, where legally permitted and not otherwise covered by appropriations, for its agency cost associated with NRC activities to achieve the objectives of the MOU." DOE is currently borrowing money under the Nuclear Waste Fund program while loaning money from the fund. We would like to know the exact interest rate of both policies as it relates to paying NRC.

The part about legally permitted is not explained very well.

Some details regarding salaries is important as apparently the task force must have many credentials (not related in the work plan) and they do not need to be checking fire extinguishers at their payment rate.

Section K C-2 lists Transportation of Radioactive Materials with the scope of review that includes knowledge from shipment to packaging. Again this task force will need some input from other experts and those persons have not been named in this plan. This discussion could be described for so many of these broad outlines in the plan. We would like to request that NRC ask DOE where the transportation alternative plan is located for WHIPP or any other project. NRC would need that plan for reference.

This plan (C-3 O) Fire Protection Program states the review will include an assessment of the procedures for control of combustibles, inspection of portable fire extinguishers. Testing of emergency lights, inspection of chemical storage areas, emergency response and waste removal. The review will also include an assessment of the training requirements for the facility designated fire wardens. We all certainly want to see the trip reports and procedures used by this task force documenting that all these things were conducted by this group. That goes for all the other activities. What persons are already staffed to conduct these activities and why do they need you to help them? The state and local fire and emergency response persons could save you money and help in these projects.

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This work plan does not give specific check sheets to be used to assess the many programs and evaluations outlined. Your regulations probably provide guidelines for such forms utilized by your persons. In accordance with your regulations, we would want the same level of expertise assigned to each category as utilized by NRC and its hiring practices and proficiency levels. We would want all forms and evaluation categories signed by the staff person with his credentials for making such an evaluation and determination. The accounting part would be especially important and we would want it signed by a certified accountant.

The proposed environmental monitoring is not specific. Most of the outline appears to discuss the same issues that have been part of CAB meetings and other public meetings and other review groups. Are you starting these programs over? Your claim of an independent review needs some independent contractors outside the DOE if you are going to make such a claim.

Page 9 discusses defining similarities and differences between RBOF and other NRC licensees. The work plan should discuss your staff and the similarities and differences between what you are doing and what they are doing. Any reports should be very specific. The nature of the licensing of the NRC and DOE work are so different in scope that one has difficulty relating the integration.

The purpose of the Memorandum of Understanding to "simulate regulation" when NRC is prohibited from regulation of DOE is confusing. What was the policy for this exemption? Somebody must have had some reasons for this statutory language! If NRC wants DOE to "gain experience", then develop a training program that NRC deems appropriate and present it to the public. Perhaps some debate is in order for who has had the most "experience" at what.

You may want to contact the Georgia Public Service Commission about training programs. Apparently under our new gas deregulation plan, new marketers who cannot collect delinquent accounts as well as the current gas company can be allowed special circumstances (write-offs I think) until they learn and get better at their new service.

This program will not "provide an opportunity to develop actual information on the costs and benefits of external regulation," because you do not (currently) have enough money

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or staff to make the comparison. Your budget should be presented with any work plan.

The NRC regulations call for antitrust language for Prelicensing Antitrust Review of Production and Utilization Facilities and to Effectuate Certain Other Purposes Pertaining to Nuclear Facilities. In accord with the intent of the NRC to facilitate competition, some review is in order to determine the degree in which your agency would become the monopoly for all the commercial and government nuclear facilities under the current activities outlined in the NRC Memorandum of Understanding between the DOE and NRC. Did the antitrust section of the Justice Department give any review of this work? They have historically notified NRC about such action in court cases. The public would like for the NRC to abide by the same guidelines as the Justice Department uses for other nuclear situations.

Some legal findings have even used language that can mean even setting up a situation that might lead to monopolization. This plan is a monopoly report without input from other agencies with responsibility at DOE. NRC is engaging in unfair monopoly reporting power without allowing access of other reports available in the government market or peer review in the proper fields. The appropriations set up a monopoly reporting power structure and the people are not protected from this monopoly. The work plan should be set up to remedy this situation. The NRC can use the same type of remedies that they have recommended themselves to other parties.

We urge the public get relief from the draft plan of the DOE/NRC.

The work plan language and general intent for safety and protection are important and everyone wants to be sure that they are addressed with full input and peer review.

Thank you for the opportunity to comment on this important matter in our area. The information regarding this plan has not been fully sent to the public and we hope that more comment opportunity will exist.

FD299

Georgia Department of Natural Resources

205 Butler St. S.E. , East Floyd Tower, Atlanta, Georgia 30334  
Lonnie C. Barrett, Commissioner  
Harold F. Reheis, Director  
Environmental Protection Division  
(404) 656-4713

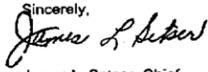
September 21, 1998

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

Dear Sir or Madam:

The Environmental Protection Division (EPD) of the Georgia Department of Natural Resources (DNR) is pleased to provide the following comments on the "Surplus Plutonium Disposition Draft Environmental Impact Statement", DOE/EIS-0283-D. Attached you will find a discussion of issues related to the draft EIS that we feel are significant, as well as detailed page-by-page comments.

Thank you for the opportunity to comment on this document.

Sincerely,  
  
James L. Setser, Chief  
Program Coordination Branch

JLS:lm  
Attachment

Georgia Environmental Protection Division  
Issues Related to  
Surplus Plutonium Disposition Draft Environmental Impact Statement (DEIS)  
DOE/EIS-0283-D

Use of Existing Facilities at Savannah River Site (SRS)

Many of the SRS alternatives involve utilization of the ageing facilities at SRS. Some of these facilities, particularly the F and H Canyons, have been in operation for more than 45 years. The risk of design-based accidents and the potential that a severe earthquake or other natural disaster such as a severe tornado could occur are of vital concern for the utilization of these facilities. Whereas new nuclear facilities are constructed to seismically withstand the forces of such natural disasters (i.e., 0.2g for a design-basis earthquake), the older facilities are not constructed according to these standards. The magnitude of such an earthquake would be expected to cause severe structural damage that could lead to partial structure collapse and unmitigated releases of radioactive and hazardous material to the environment.

1

Scheduling

The technology for immobilization of plutonium at SRS is unrealistic from a time schedule viewpoint. The purpose of the current Defense Waste Processing Facility (DWPF) at SRS is to convert the high level wastes in the tank farm to a borosilicate glass form which will be shipped to a National Repository when one becomes available. Because of DOE's failure to successfully conduct In Tank Precipitation (ITP) an ion-exchange system is being considered. If implemented, this system is expected to cost \$500 million and require between 6 and 14 years to implement. The ITP was initially completed in 1988 at a cost of \$32 million and now, more than \$500 million in estimated costs have been incurred and the facility is not operational. While DOE's expectations that all high level waste tanks be emptied and completely processed by 2020, the modifications to the DWPF and related operations for plutonium immobilization at SRS will most likely cause even further delay in processing the existing 32 million gallons of high level waste. This further delay raises the question of an increased risk to public health and safety due to a failure of the old carbon steel tanks that contain the high level radioactive waste.

2

Proximity of Plutonium Processing Facilities

The separation of an MOX fuel fabrication facility from the pit conversion facility (i.e., pit conversion at Pantex and MOX facility at SRS) could lead to significant control problems related to gallium contamination in the MOX fuel fabrication process. Because hafnium and gadolinium are both neutron absorber poisons that will contaminate the MOX fuel, in a manner similar to the requirement for Hafnium removal in reactor grade zircaloy for commercial LWR's, a polishing process has to be put in place to get rid of the gadolinium. This polishing process needs to be employed at the pit conversion facility if new construction is envisioned because this contamination in the MOX fuel fabrication facility is extremely difficult to control.

3

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MD322-1

Human Health Risk

As explained in the *Supplement to the SPD Draft EIS*, DOE has eliminated as unreasonable the eight alternatives in the SPD Draft EIS that would involve use of portions of Building 221-F with a new annex at SRS for plutonium conversion and immobilization. It was determined that the amount of space required for the immobilization facility would be significantly larger than originally planned. These new space requirements mean that the annex to be built alongside Building 221-F would be very close in size and environmental impacts to the new immobilization facility alternatives at SRS. Therefore, this SPD EIS only presents the alternatives involving a completely new immobilization facility at SRS.

MD322-2

Immobilization

Proposed modifications to the in-tank precipitation (ITP) process are independent of the modifications needed at DWPF to support the surplus plutonium disposition program. The use of DWPF to support plutonium immobilization produces only a few additional glass canisters and is unlikely to delay the waste vitrification program significantly or to cause increased risks associated with liquid HLW management. DOE is presently considering a replacement process for the ITP process at SRS. The ITP process was intended to separate soluble high-activity radionuclides (i.e., cesium, strontium, uranium, and plutonium) from liquid HLW before vitrifying the high-activity fraction of the waste in DWPF. The ITP process as presently configured cannot achieve production goals and safety requirements for processing HLW. Three alternative processes are being evaluated by DOE: ion exchange, small tank precipitation, and direct grout. DOE's preferred immobilization technology (can-in-canister) and immobilization site (SRS) are dependent upon DWPF providing vitrified HLW with sufficient radioactivity. DOE is confident that the technical solution will be available at SRS by using radioactive cesium from the ion exchange or small tank precipitation process. A supplemental EIS (DOE/EIS-0082-S2) on the operation of DWPF and associated ITP alternatives is being prepared.

**MD322-3 Plutonium Polishing and Aqueous Processing**

Pit disassembly and conversion is a common technology required for implementation of both the hybrid alternatives and the immobilization-only alternatives. The plutonium dioxide produced by the pit conversion facility can be used for either the immobilization or MOX approach. Neither gadolinium nor hafnium is present in pit plutonium metal in concentrations of concern for MOX fuel production. On the basis of public comments received on the SPD Draft EIS, and the analysis performed as part of the MOX procurement, DOE has included plutonium polishing as a component of the MOX facility to ensure adequate impurity (e.g., gallium) removal from the plutonium dioxide. Appendix N was deleted from the SPD Final EIS, and the impacts discussed therein were added to the impacts sections presented for the MOX facility in Chapter 4 of Volume I. Section 2.18.3 was also revised to include the impacts associated with plutonium polishing.

Additional processing needed only for MOX fuel fabrication would occur in the MOX facility, not the pit conversion facility. Controls would be put in place to ensure that any contaminants removed during the plutonium-polishing process would not contaminate the MOX fuel fabrication line. As indicated by the analyses, the addition of this process is not expected to materially affect the ability of the candidate sites to handle MOX fuel fabrication.

**Location of Facilities**

The types of technical problems (i.e., the In Tank Precipitation issue) that have arisen at SRS and DOE's approach to resolving them do not instill assurance that a plutonium pit conversion facility can be developed and constructed in a timely manner at SRS within any reasonable cost estimates. The DOE tiered approach needs supplemental Research and Development (R&D) technology for conceptual design and full scale operational throughput of surplus plutonium material. In addition, it is noted that Pantex with a new Pit conversions facility will provide minimal radiological impact on the population and workers, where there will be a major impact on the workers (349 person rem) and a factor of 10 increase in population radiological exposure if the facility is located at SRS.

4

**Facility Accidents**

The respirable fraction (the fraction of release consisting of Plutonium particles with a diameter of less than 10 microns is questioned). The DOE use of the fraction (0.1-0.01) 0.01 or smaller for the inhalation pathway to man is questioned. For inhalation of the lung; and TBLN it is noted that the fraction of respirable particles less than 10 microns does indeed affect the dose. What is left out is the fact that going from 1.0 microns to 0.1 micron, there is a 1000 fold increase in particle concentration for a 10 fold reduction in medium particle diameter for Pu-239.

6

Review of deposition and scavenging data reveal the difference for dry deposition vs. wet deposition of PuO<sub>2</sub> particles. The average bounds for wet deposition removal rate for particles is 10-4 for stable meteorological conditions and 10-3 for unstable wind conditions. For dry deposition of PuO<sub>2</sub> particles the deposition velocity is a constant value of 10-2 regardless of meteorological conditions. For bounding of particle deposition the maximum expected for wet deposition is 10-2 and for dry deposition 10-1. This 10 fold factor should not be overlooked in considering "respirable fraction".

7

The fraction of energy absorbed in tissue (f1) is always small for PuO<sub>2</sub>. The value of f1 equals 3x10-3 is used for plutonium oxides. The value of f1 for the other actinides is conservatively set at f1 equals 10-3. Thus, the actual value has little effect on the estimation of inhalation dose.

8

Ingestion modeling (ICRP-23 1975) indicates that direct ingestion of PuO<sub>2</sub> particles would be a much lesser radiological impact than inhalation. It should be noted that part of inhaled material, however, would be translocated by bodily processes to the gastrointestinal tract. For sake of accuracy the model for the gastrointestinal tract must include all nuclides considered in the inhalation model.

9

The Melcor Accident Consequence Code System (MACCS2) used to calculate the consequences of facility accidents (appendix K) is a sector averaged code as opposed to the straight-line Gaussian. The sector-average equation uses the cross wind integrated model but distributes the Y-concentration evenly over a sector. The width of

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**MD322-4**

**Alternatives**

DOE acknowledges the commentator's concerns regarding the technical issues associated with pit disassembly and conversion. These issues are the subject of ongoing R&D activities at INEEL, LANL, LLNL, and ORNL. These activities are expected to reduce technical risk and ensure that design, construction, and operation of the proposed surplus plutonium disposition facilities can be conducted efficiently and effectively, and within reasonable cost and schedule constraints. The largest of these activities is the pit disassembly and conversion demonstration project at LANL, a full-scale pit disassembly and conversion line similar to what would be used in the proposed facility. This demonstration project and other R&D activities are described in *Pit Disassembly and Conversion Demonstration EA* (DOE/EA-1207, August 1998), which is available on the MD Web site at <http://www.doe-md.com>.

**MD322-5**

**Human Health Risk**

Sections 4.4.2.4 and 4.6.2.4 present radiological impacts of operating the pit conversion facility at SRS and Pantex, respectively. As shown in the tables regarding impacts to the public, the anticipated dose to the population surrounding SRS from pit conversion facility operations would be 1.6 person-rem/yr (average dose would be 0.0020 mrem/yr), and for Pantex would be 0.58 person-rem/yr (average dose would be 0.0019 mrem/yr); this difference of about 2.8 times is due mainly to the larger population surrounding SRS. As shown in the tables regarding impacts to workers, the worker population dose at the pit conversion facility is 192 person-rem/yr whether the facility is located at Pantex or SRS. The average worker dose is expected to be 500 mrem/yr to involved workers at either site.

Regardless of where the pit conversion facility is operated, DOE policy places safety and environmental considerations above other program goals. DOE dose limit requirements (DOE Order 5400.5, *Radiation Protection of the Public and the Environment*, and 10 CFR 835, *Occupational Radiation Protection*) have been established to protect and ensure the safety and health of the public and workers. In addition, protection of the public and workers is considered by DOE in the design, location, and construction of its facilities.

Comment Documents and Responses—Georgia

**MD322-6****Facility Accidents**

As used in this SPD EIS, the respirable fraction is the mass fraction of airborne material estimated to have less than a 10-micron aerodynamic equivalent diameter (AED). Use of this definition is common practice within DOE and is included in *Airborne Release Fractions/Rates and Respirable Fractions for Nonreactor Nuclear Facilities* (DOE-HDBK-3010-94, October 1994). Section 1.2 of the handbook discusses respirable fraction in detail, citing other definitions that have been used historically by a variety of organizations, and concludes that "use of a 10 [micron] AED cut-size for respirable particles is considered conservative, and may even be overly conservative since the mass is a cube function of particle diameter."

**MD322-7****Facility Accidents**

There is no direct connection between deposition velocity and respirable fraction. Deposition velocity reflects the rate of removal of material from the plume to ground-level surfaces, whereas respirable fraction is the mass fraction of the particulate matter that can be inhaled. As implemented, respirable fraction was used in defining the source term, so that the released plume can be considered 100 percent respirable. Deposition velocity was set to zero, so that no material is assumed to be removed from the plume by this mechanism, thus increasing predicted downwind concentrations and inhalation dose (the most significant dose pathway).

**MD322-8****Facility Accidents**

MACCS2 is a standard, accepted code for analyzing the impacts of accidents in EISs and for comparison of alternatives in NEPA documents. The MACCS2 dose conversion factor of  $8.33 \times 10^{-5}$  sieverts/becquerel ( $3.08 \times 10^{-8}$  rem/ci) for a 50-year committed effective dose equivalent from plutonium 239 for the inhaled chronic dose pathway to the whole body alleviated the need to assess dose on an organ-specific basis. The presence of other nuclides from the aged plutonium was accounted for by scaling the plutonium 239 dose factor against like factors for the other contributing nuclides in proportion to their presence.

**MD322-9**

**Facility Accidents**

Discussion on the use of the inhalation pathway for consequence estimation is in Appendix K.1.4.2. The inhalation dose as presented provides an appropriate basis for assessment of impacts and for comparison of alternatives in this SPD EIS.

**MD322-10**

**Facility Accidents**

The MACCS2 code does calculate the centerline ground-level plume concentration; it is not a (crosswind) sector averaged model. Perhaps the commentor is thinking of the GENII code, which is a sector-averaged code. It is not clear what the commentor means by, "DOE need to further elaborate why the MEL's (sic) maximum exposure would be 100 meters under neutral (Class D) atmospheric conditions and 500 meters under stable (Class F) atmospheric conditions."

As implemented, MACCS2 sampled over a year's worth of meteorological data. For each sample, doses were determined along the plume centerline (for MEI and noninvolved worker) and for each fine grid element within each sector under the plume (for the population dose). Appendix K discusses the assumptions used and the accident analyzes conducted.

a sector is equal to the circumference ( $2\pi X$ ) at distance  $X$  from the source divided by the number of Sectors,  $n$  (typically  $n=16$  as that there are  $16 \times 22 \frac{1}{2}$  degree Sectors. The concentration in each Sector is weighted by the fraction of the time that the wind blows into the Sector of Interest (0.01 times the percentage of the time),  $f_1$  that the wind is blowing into the Sector of Interest. Sector averaging is an artifice for representing long-term meandering of the Plume. For accident considerations the center-line ground level source, and ground-level receptor may be more appropriate. DOE need to further elaborate why the MEL's maximum exposure would be 100 meters under neutral (Class D) atmospheric conditions and 500 meters under stable (class F) atmospheric conditions.

10

Direct ingestion of PuO<sub>2</sub> is a less important dose exposure than inhalation because PuO<sub>2</sub> is highly insoluble even in body fluids. The  $f_1$  values (i.e. fraction of a quality that is absorbed from the gastrointestinal track to blood) range from 10-3 to 10-5. The safety requirement should insure that:

11

- a) accident analysis adequately consider all credible scenarios
- b) all appropriate engineering safety systems which are necessary to prevent accidents or mitigate the on-site and off-site consequences of those accidents are identified
- c) the fire hazards analysis be consistent with other accident analysis.

12

DOE estimates of the risk from design based accidents and natural disturbances such as a severe earthquake is judged to be adequate. The highest risk to the maximally exposed off-site individual is a bounding accident because its risk is higher than the risk of other accidents in the same frequency range. The consideration of the risks associated with bounding events or accidents for a facility can establish an understanding of the average risk to workers, members of the public, and the environment from operating the facility. The risks of different facilities can be compared relatively by comparing the risks associated with bounding accidents for each facility. DOE should provide additional consideration of bounding of risks due to accidents.

13

If the specific ground activity is associated mostly with particles of size greater than  $50\mu\text{m}$ , a very small air concentration would result from the respirable size particles less than 10 microns.

14

For the Gaussian diffusion model (applicable for continuous and instantaneous sources). The vertical component of turbulence intensity is a strong function of thermal stability, which in turn may be quite variable with height above ground.

15

It is noted that the buoyancy flux is a factor in both stable & unstable meteorological conditions. However, it is questioned why DOE has used different MEI locations as a function of atmospheric stability and this should be explained further. Also it is noted that there will be no plume rise (i.e. buoyancy flux) for normal transportation accidents unless there is a fire.

16

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**MD322-11****Facility Accidents**

DOE acknowledges the comment that inhalation pathways represent the greatest risk of exposure. This is accounted for in the MACCS2 model as discussed in Appendix K.1.4.2.

**MD322-12****Facility Accidents**

The selection of accidents for this SPD EIS was done in accordance with *Recommendations for the Preparation of Environmental Assessments and Environmental Impact Statements* (DOE Office of NEPA Oversight, May 1993). Design basis events were developed based on categorizing accidents into types of events, and a bounding consequence was determined for each type. The potential for accidents beyond the design basis was examined down to a frequency of  $1.0 \times 10^{-7}$  per year. This differs from the process-specific analysis, such as fire-hazards analysis, that would be performed in conjunction with the conceptual design package and the analysis performed for the SAR. It is these latter analyses that are used to determine the adequacy of engineered and administrative safety systems, and through which a commitment is made to preserve these protections as part of the operational safety basis.

**MD322-13****Facility Accidents**

The Facility Accidents sections in Chapter 4 of Volume I present a characterization of the spectrum of potential accident scenarios that are implicit in the particular alternatives. Each accident is conservatively developed by type, so is therefore considered to bound the accident risk.

**MD322-14****Facility Accidents**

There is no connection between ground activity and respirable-size particles. The respirable fraction is determined by the material form and scenario phenomenology and is based on recommendations in DOE-HDBK-3010-94, *Airborne Release Fractions/Rates and Respirable Fractions for Nonreactor Nuclear Facilities*. For example, the respirable fraction associated with fires in the MOX facility is 0.01, or 1 percent of the airborne material.

**MD322-15**

**Facility Accidents**

This SPD EIS uses 10-m (33-ft) meteorological data. These are the most appropriate data for use in calculating ground-level concentrations for nonbouyant plumes released at the stack heights analyzed. The vertical component of turbulence is not an important factor in determining downwind concentrations under the assumed release conditions.

**MD322-16**

**Facility Accidents**

All plumes released as a result of facility accidents were conservatively assumed to be nonbuoyant. This is reasonable for fires because significant cooling is possible in transit from the fire site to the release point. DOE has not used different MEI locations as a function of atmospheric stability. The MEI is located at the fence line, in the direction downwind from the release point. The MEI location changes for each run within the MACCS2 code because the wind direction changes for each run. This is why there is no single location associated with the MEI dose.

<p>For new construction at SRS the Design Basis earthquake, the source term is assumed to be <math>3.8 \times 10^{-4}</math> grams. The dose at the site boundary is <math>1.7 \times 10^{-5}</math> rem.</p>	17
<p>For the case of accidents resulting from ceramic immobilization in F-canyon Bldg 221 F and DWPF at SRS, the source term is 3.8 grams. The dose at site boundary is <math>4.1 \times 10^{-1}</math> rem. Note that a factor 4 orders of magnitude increase in the severity of the accidents dose at the site boundary.</p>	17
<p>Therefore new construction at SRS is recommended (design basis earthquake) because of the decreases in radioactive emissions of Pu-239. The new facilities would be designed to reduce the frequency of accidents and to mitigate the consequences.</p>	18
<p>It is noted that for facility accidents, DOE has chosen to only consider the inhalation pathway to the pulmonary region and not consider the effect of resuspension of particles (MACCS2 code). In so doing, the code sets the deposition velocity to zero so that the material that might otherwise be deposited on the ground surfaces remains airborne and available for inhalation. This may not be as conservative for some types of accidents (i.e. particular PuO<sub>2</sub> fires and explosions). Airborne releases of Pu will be in the oxide form and contain a substantial percentage of particles in the "respirable range" (i.e. less than 10 micron).</p>	18
<p>DOE has limited the duration of accidental releases from SPD facilities to 10 minutes except for fires. This may be a rather limiting value compared to actual release times from other DOE facilities accidents. For fires and explosions it is recommended that the dose pathway from resuspension of Pu particles be included in the dose calculations.</p>	19
<p>Analysis indicate that when a contaminating event occurs most of the radiation dose associated with the event is committed within a short time (a period of a few weeks or months) unless protective actions are taken. Intervention criteria are based on a projection of the ultimate consequence of the event and a judgement of how certain actions could reduce the impact. Development of intervention criteria requires advance planning, so that emergency response plans can be implemented in a minimum period of time.</p>	20
<p>The objective of environmental sampling and analysis is to derive information for the purpose of estimating dose rates to pulmonary lung and to bone of exposed individuals. In general, resuspension will be relatively high immediately after initial deposition, gradually decrease with time, and approach a long term constant within about one year after deposition. The resuspension rate for newly deposited contamination has been estimated to be higher by a factor of 1000 or more than that for aged sources of plutonium, and therefore, represents a proportionately greater radiological hazard.</p>	21
<p>The principal difference between the initial phase and long-term phase is that the newly deposited contamination is generally much more mobile and more easily resuspended.</p>	21
MD322	

**MD322-17****Facility Accidents**

The commentor is correct in identifying large differences between new construction and Building 221-F with respect to structural response to a design basis seismic event.

The remainder of this comment is addressed in response MD322-1.

**MD322-18****Facility Accidents**

The practice of setting the deposition velocity to zero so that the material that might otherwise be deposited on the ground surface remains airborne and available for inhalation is considered conservative for all analyzed accidents. The respirable fractions used for plutonium fires and explosions are from DOE-HDBK-3010-94, *Airborne Release Fractions/Rates and Respirable Fractions for Nonreactor Nuclear Facilities*, and are based on experiments of the phenomena in question. Airborne material that is not respirable will not subsequently become respirable because there is no mechanism for getting energy inside the particles to further subdivide them. The process of deposition and subsequent resuspension would tend to result in agglomeration rather than subdivision, so that the quantity of resuspended material that is respirable would be much less than that amount of respirable material in the original plume whose presence can be attributed to the neglect of deposition.

**MD322-19****Facility Accidents**

The 10-min release duration assumption does not imply that the source term has been truncated; it is simply assumed that the entirety of the source term is released at a constant rate over a 10-min duration. The effect of differing assumptions concerning release duration is discussed in Appendix K.1.4.2. The two factors affecting doses as release duration changes are plume meander and the larger variety of meteorological conditions involved in any given run for longer-duration releases. The effect on dose of these two considerations is as follows. Plume meander decreases individual dose with increasing release duration and tends to narrow the distribution of population doses with increasing release duration. A larger variety of meteorological conditions tends to narrow the distribution of both individual and population doses toward the mean dose with increasing release duration. Both factors would tend to lower (i.e., reduce conservatism of) predicted doses reported in this SPD EIS.

The remainder of this comment is addressed in response MD322-18.

**MD322-20**

**Facility Accidents**

As discussed in the Emergency Preparedness sections in Chapter 3 of Volume I, each candidate site has an established emergency management program, including response time requirements, that would be activated in the event of an accident. Site hazard surveys are periodically updated and would be modified to reflect any new hazards including those based on the decisions made in the SPD EIS ROD. These modifications would include development of revised intervention criteria, if needed, in accordance with DOE Order 151.1, *Comprehensive Emergency Management System*. The MOX facility would also be required to comply with 10 CFR 70, *Domestic Licensing of Special Nuclear Material*, which requires emergency plans that include provisions for notification, response, and coordination.

**MD322-21**

**Facility Accidents**

The dose calculations were performed in a conservative manner. To maximize the radionuclide concentrations in the atmosphere (and thus the inhalation dose), the deposition velocity of radionuclides onto the ground from the plume was taken to be zero. While this precludes the resuspension pathway, the increased dose associated with inhaling the radioactivity in the plume from which no radioactivity has been removed by deposition, is greater than the dose that would result from inhaling radioactivity in resuspended material.

It has been estimated that resuspension from newly deposited PuO<sub>2</sub> material may be as high as 10<sup>-4</sup>/m, or four orders of magnitude greater than for stabilized PuO<sub>2</sub> contamination.

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**Transportation**

The DEIS discusses in detail the analysis of both incident-free transportation and the effects of transportation accidents. The discussion below deals specifically with transportation of either plutonium metal or plutonium oxide to SRS under Alternatives 3 and 5, but also applies to transportation of "pit parts" and high-enriched uranium (HEU) components from Savannah River Site (SRS) to other DOE facilities. It is assumed, based on information presented in the DEIS, that all shipments of plutonium or high-enriched uranium, including new Mixed Oxide (MOX) fuel shipments will be made using a Safe Secure Trailer (SST), operated by the Transportation and Safeguards Division (TSD) in DOE's Albuquerque office.

22

In July 1998, the DOE Deputy Assistant Secretary for Oversight issued a report titled "Independent Oversight Evaluation of Emergency Management Programs Across the DOE Complex". Included in this report is a critique of the TSD emergency management program. The Office of Oversight noted several "issues" related to TSD, including:

- 1) "In September 1996, TSD management mandated the removal of radiation monitoring instruments from all convoy shipments ... [s]ome Emergency Action Levels (EALs) require radiation readings.
- 2) "On November 1996, a TSD Safe Secure Trailer transporting nuclear weapons slid off a road and rolled over near Valentine, Nebraska. According to a Department of Defense Nuclear Command and Control System Support Staff report, almost four hours elapsed before DOE Headquarters was notified, and it was almost 20 hours before a Radiological Assistance Program (RAP) team determined that there had been no radiological release. The report recommended equipping convoys with radiological instruments to provide timely warning of potential personnel hazards.
- 3) "There is a discrepancy between an Emergency Action Level (EAL) in the TSD Hazards Assessment and the emergency management plan. One specifies an alert, while the other specifies a general emergency for the same conditions.
- 4) "The document provided to Convoy Commanders to provide initial protective action recommendations for the public include decision paths that cannot be completed due to lack of observable criteria (requires information not directly observable or measurable).
- 5) "The TSD hazards assessment (May 4, 1994) does not provide an adequate technical basis for ground transportation emergency planning, preparedness and response. No radiological assumptions, models, methodologies or evaluations for TSD convoy event hazards are documented or referenced in the TSD Hazards assessment.
- 6) "The emergency response organizations, procedures and training for TSD and its contractor, Ross Aviation, do not adequately support accurate and prompt

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**MD322-22**

**Transportation**

The commentor is correct. All shipments of plutonium and HEU, including new MOX fuel shipments, would be made using DOE's SST/SGT system. LLW and TRU waste would be shipped in commercial trucks, not SST/SGTs.

**MD322-23**

**Transportation**

DOE's internal and external reviews and assessments are designed to achieve a path of continuous improvement in its transportation and emergency management programs. However, the comments are beyond the scope of this SPD EIS and have been forwarded to DOE's Transportation Safeguards Division for review. DOE is currently analyzing the issues raised in the independent oversight evaluation and will take appropriate action as necessary.

categorization and classification of operational emergencies during transport of nuclear materials or devices." 23

The DEIS discusses "24-hour-a-day real-time communications to monitor the location and status of all SST shipments via DOE'S Security Communications system". For several years, state radiological emergency response organizations, including Georgia's, have had access to the TRANSCOM real-time shipment tracking system. Particularly within the past year, the TRANSCOM system has proven to be unreliable in tracking of domestic and foreign research reactor spent nuclear fuel shipments and Waste Isolation Pilot Plant (WIPP) dry run shipments. It is our understanding that the Transportation and Safeguards Division (TSD) shipments uses the same basic tracking software system, but states will not have access to the tracking information; nor will they have access to advance shipment information which normally precedes highway route controlled quantity (HRCQ) shipments of radioactive materials. 24

The text of the DEIS describes the postulated accident scenarios as "the maximum foreseeable offsite transportation accident", while Appendix L describes them as "the most severe accident conditions". We agree with DOE that Accident Severity Category VIII accidents would be considered "worst case" but assuming that such an accident can occur only in a rural setting does not appear to be conservative. For example, we note that "rural" mileage accounts for approximately 78% of the route between Pantex and SRS, while "suburban" mileage accounts for nearly 20% of the route. In the Atlanta metropolitan area, suburban speed limits outside I-285 are generally 65 miles per hour (mph); rural speed limits are 70 mph. Higher traffic volumes within the "suburban" area, and nearly equivalent speeds as in the "rural" area would seem to increase the relative probability of severe vehicle accidents in the "suburban" areas, and such accidents would potentially have far greater consequences than those presented in the DEIS. 25

The discussion of vehicle accidents specifically addresses the potential for a release of plutonium from the transport vehicle, with subsequent inhalation of plutonium by persons nearby. The DEIS however, states on page L-30, that "postaccident mitigative actions are not considered for dispersal accidents. For severe accidents involving the release and dispersal of radioactive materials into the environment, no postaccident mitigative actions, such as interdiction of crops or evacuation of the nearby vicinity, have been considered in this risk assessment." 26

The DEIS does not present sufficient information related to recovery. In Appendix K, which in general discusses the effects of facility incidents, the DEIS states "the longer-term effects of plutonium deposited on the ground and surface waters after the accident, including the resuspension and inhalation of plutonium and the ingestion of contaminated crops, were not modeled for the SPD (Surplus Plutonium Disposition) EIS. These pathways have been studied and been found not to contribute as significantly to dosage as inhalation, and they are controllable through interdiction". In previous correspondence with DOE in other programs, we have also met with some resistance to discussing the effects of deposited radioactive materials, as these effects 26

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MD322-24

Transportation

DOE is working very closely with State and tribal representatives to upgrade the transportation tracking and communication (TRANSCOM) system. The shipment of special nuclear materials using SST/SGTs does not involve the use of TRANSCOM. DOE Order 5610.14, *Transportation Safeguards System Program Operations*, specifically requires independent and redundant communications systems between vehicles in an SST/SGT convoy and with SECOM (a secure communications system operated by DOE). For security reasons, State and tribal representatives are not given access to this system. DOE has a system to liaison with State transportation and safety organizations on SST/SGT shipments.

MD322-25

Transportation

The consequences of a Category VIII accident occurring in suburban and urban zones are shown in Tables L-8 and L-9. However, a Category VIII accident in suburban and urban zones would have a frequency of less than 1 in 10 million years and would not be a foreseeable accident. Appendix L was revised to describe the maximum foreseeable offsite transportation accident as occurring in a rural zone. Because the total mileage in urban and suburban zones is much lower than in rural zones, accidents are less likely to occur in urban and suburban zones.

MD322-26

Transportation

DOE acknowledges the commentor's concern about transporting surplus plutonium. The subject of emergency response and subsequent cleanup of an accident that involves the release of nuclear materials, both special nuclear material and waste, is a topic of continuing discussion and planning between DOE and State, local, and tribal officials. Several venues, such as DOE's State and Tribal Governments Working Group and the Southern States Energy Board, are being used to facilitate these discussions. DOE's Transportation Safeguards Division has a formal liaison program with the States related to the transportation of special nuclear materials.

No credit was taken for interdiction or other activities that could be taken after a transportation accident involving a radioactive release, so the doses reported in this SPD EIS are considered conservative. As indicated in

Appendix L.8.4, mitigative actions would be taken following such an accident in accordance with EPA guidelines for nuclear accidents. These actions would result in lowering the actual dose to the surrounding population. As with any transportation accident, local, tribal, and State police, fire departments, and rescue squads are the first to respond to accidents involving radioactive materials. DOE maintains eight regional coordinating offices across the country, staffed 24 hours per day, 365 days per year, to offer advice and assistance. Radiological Assistance Program teams are available to provide field monitoring, sampling, decontamination, communication, and other services as requested. Dose to emergency response personnel is accident-specific and can not be globally estimated. Responders are trained to minimize dose.

The RADTRAN computer code evaluates the dose to the public from the resuspension pathway by calculating a resuspension dose factor. The resuspension dose factor takes into account dose from deposited material that is resuspended by various mechanisms such as wind or traffic. The factor is calculated using the methodology developed by NRC in the *Calculation of Reactor Accident Consequences, Appendix VI to the Reactor Study* (WASH-1400, 1975).

Transportation would be required for both the immobilization and MOX approaches to surplus plutonium disposition. Transportation of special nuclear materials, including fresh MOX fuel, would use DOE's SST/SGT system. Since the establishment of the DOE Transportation Safeguards Division in 1975, the SST/SGT system has transported DOE-owned cargo over more than 151 million km (94 million mi) with no accidents causing a fatality or release of radioactive material. Furthermore, as discussed in Appendixes L.3.1.5 and L.3.1.6, DOE would ship all plutonium in Type B containers which must satisfy stringent testing criteria specified in 10 CFR 71, *Packaging and Transportation of Radioactive Materials*. The testing criteria were developed to simulate severe accident conditions, including impact, puncture, fire, and water immersion.

were seen as being more "environmental" than "emergency response".

In order to plan for, equip themselves to deal with, and train their response personnel for dealing with a transportation incident involving plutonium, state and local officials need information regarding both immediate protective measures, and also information related to post-emergency issues such as resuspension and relocation of deposited radioactive materials. For example, regarding vehicular disturbances, Sehmel (1975) has examined the importance of auto and truck traffic in the increasing of resuspension. It was concluded that such disturbance, in the case of an asphalt surface with newly deposited material, will lead to increased resuspension, with a fraction resuspended of the order of 10<sup>-5</sup> to 10<sup>-2</sup> per vehicle passage. The higher rates occurred at speeds typical of freeway driving. After passage of about 100 cars only a small fraction of the original contamination remained on the road surface. Unless emergency officials promptly close the accident scene to vehicle traffic (an unlikely situation), emergency responders may face an incident scene that is, unknown to them, extremely hazardous due to respirable plutonium. Post-emergency actions may also be complicated due to the enhanced spread of contamination by vehicle traffic. It is worthy of note here that the DEIS presents no information regarding potential radiation doses to response personnel.

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Public acceptance of transportation of plutonium (Pu) in the U.S. is not a given. The true risk posed by transportation of plutonium may indeed be very small, but it is not zero, and public perception regarding these risks, and public acceptance of them, is critical to the success of this program. The existence of knowledgeable emergency response personnel at the state and local level, armed with both the training and equipment which would be required to respond to a transportation incident involving plutonium is a critical component in obtaining this public acceptance.

**Utilization of Mixed Oxide (MOX) Fuel**

There is a major unresolved question regarding the DOE decision to build a MOX fuel fabrication facility. The answer lies with the existing 41 operating commercial nuclear utilities in the United States that DOE expects to use the MOX fuel. There is the potential need for core redesign and other stability and power dynamic provisions imposed on the utility industry. This raises the issue of whether or not rate schedules will absorb the inherent cost of conversion. This may shift the decision away from inclusion of plutonium in MOX fuel and toward the placement of surplus weapons useable plutonium directly into geologic disposal (expected to be located at Yucca Mountain).

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**Decommissioning and Decontamination of Plutonium Facilities**

There is not enough attention given to the end of the plutonium fuel cycle missions in the Draft EIS. Conceptual designs should be provided indicating where decommissioning and disposal (Dad D) considerations have been a driving force in the technology development, fabrication, and operational readiness for chemical and

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**MD322-27**

**MOX Approach**

Section 4.28 was revised to discuss the potential environmental impacts of operating the reactors that would use MOX fuel. Commercial reactors in the United States are capable of safely using MOX fuel. Modifications would need to be made to the fuel assemblies that would be placed in the reactor vessel to support the use of MOX fuel, but the dimensions of the assemblies would not change. DOE has used selection criteria in the procurement process which ensure that the domestic, commercial reactors chosen would be capable of safely and successfully completing the surplus plutonium disposition program. In addition, NRC would evaluate license amendment applications and monitor the operation of the proposed reactors selected to use MOX fuel. After irradiation is complete, the spent fuel would be stored on the site pending eventual disposal pursuant to the NWPA.

The provisions of the DOE contract with DCS to use the Catawba, McGuire, and North Anna reactors would not result in additional cost to the electricity customer.

**MD322-28**

**General SPD EIS and NEPA Process**

As described in Section 4.31, features are being incorporated into the designs that would allow future deactivation and stabilization activities to be performed more quickly and easily to reduce the risk of radiological exposure, reduce the costs associated with long-term maintenance, and prepare the buildings for potential future use. Whether DOE would reuse or D&D the facilities following surplus plutonium disposition cannot be determined at this time. DOE will perform engineering evaluations, environmental studies, and further NEPA review to assess the consequences of different courses of action.

nuclear material. There is inadequate assurance that the consideration of risk trade offs in reducing and separating risks, along with well-intended costly measures, will deliver, the expected protection of the environment, safety, and health (i.e., the cumulative risk of 50 tons of plutonium immobilization with that of up to 33 tons of plutonium in MOX fuel). DOE's historical approach to evaluating D&D options or the reuse of the facilities only at the end of the useful life of plutonium facilities is unacceptable and serves to detract from the true cost of the front end decisions for facility siting and construction.

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#### Chemical Form and Safety

There are concerns about the final chemical and physical form of Plutonium Oxide in the proposed immobilization process. DOE should indicate what technical analyses have been provided to show that plutonium will be uniformly dispersed and subcritical, with no hot spots, eutectics, heat transfer peaks and with acceptable geometric configuration. It is interesting to note that DOE did use values for the airborne release fraction of up to 0.1 and respirable fractions of up to 1.0 for some of the severe accident scenarios; however, DOE failed to include justification for their use of these values for airborne release fraction, respirable fractions, leak path factor, and material at risk.

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#### Malevolent Acts

Several of the facility incidents discussed in Appendix K of the DEIS, particularly those events for which the initiating event is an "operator error", could also be intentionally initiated by an operator with malicious intent (an informed insider). It is unclear that the analyses presented in this DEIS consider malicious intent as an incident initiator. A knowledgeable operator with malicious intent could disable or bypass systems which normally would be used to detect or mitigate an incident.

The transportation section of the DEIS, Appendix L, dismisses the possibility of malevolent acts with these words — "[i]n no instance, even in severe cases such as discussed below, could a nuclear explosion or permanent contamination of the environment leading to condemnation of land occur. ... [s]uch attacks would be unlikely to occur ... [o]ther materials, including uranium hexafluoride, uranium oxide, TRU waste and LLW, are commonly shipped, and to not represent particularly attractive targets for sabotage or terrorist attacks".

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We disagree with the conclusions drawn in this section of the EIS, and request that DOE perform calculations of the consequences of incidents initiated by malevolent acts, including transportation incidents. Results of these analyses should be classified as appropriate, as recommended by DOE Order 151.1, and incorporated into both this EIS and the Emergency Preparedness Hazard Assessment (EPHA) documents for both TSD and the plutonium facilities.

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#### MD322-29

#### Immobilization

Numerous R&D studies of the immobilized plutonium forms have been conducted by DOE and the national laboratories, in part to ensure that all environmental health and safety requirements are met. Several technical studies continue. For enhanced readability of this SPD EIS, supporting documentation and detailed analyses of the chemical, physical, and nuclear properties of the immobilized forms were published separately. Information on specific technical aspects of the immobilized forms can be found in the following documents: (1) the immobilization data reports published in conjunction with this SPD EIS; (2) *Report on Evaluation of Plutonium Waste Forms for Repository Disposal* (DI: A-00000000-01717-5705-00009, Rev. 00A, March 1996); (3) *Immobilization Technology Down-Selection Radiation Barrier Approach* (UCRL-ID-127320, May 1997); and (4) *Fissile Material Disposition Program Final Immobilization Form Assessment and Recommendation* (UCRL-ID-128705, October 1997). These documents are available to the public at DOE sites and regional reading rooms; the latter two are also available on the MD Web site at <http://www.doe-md.com>.

The airborne release fractions/rates and respirable fractions used in this SPD EIS for accident analysis are consistent with those stated in DOE-HDBK-3010-94, *Airborne Release Fractions/Rates and Respirable Fractions for Nonreactor Nuclear Facilities*. Appendix K contains scenario-specific summaries detailing the material at risk, damage ratios, airborne release fractions, respirable fractions, and leakpath factors used in the analysis of facility accidents. Additional information supporting values of material at risk, damage ratio, and leakpath factor can be found in the data reports referenced in Appendix K.

#### MD322-30

#### Facility Accidents

Sabotage scenarios are considered conjecture and not reasonably foreseeable. Although they were excluded from this SPD EIS, the results of such sabotage (including sabotage by an "insider" and transportation incidents) would be bounded by the accidents presented in Appendixes K and L. The possibility of sabotage would be controlled through the safeguards and security provisions including security requirements associated with facility workers.

The proposed surplus plutonium disposition facilities would be designed and operated in accordance with DOE Orders 470.1, *Safeguards and Security Program* and 151.1, *Comprehensive Emergency Management System*. The MOX facility and proposed reactors that would use the MOX fuel would be subject to similar NRC requirements.

Georgia Environmental Protection Division  
 Specific Comments Related to  
 Surplus Plutonium Disposition Draft Environmental Impact Statement (DEIS)  
 DOE/EIS-0283-D

Pg 1-2	What is DOE's rationale for the alternative of converting 33t of surplus plutonium to MOX fuel? Is there a useful energy recovery goal for the surplus plutonium?	31
Pg 1-3	Why does DOE not further discuss the ultimate D&D of the three types of facilities? DOE has a vast experience of the technology and operation of Pu production facilities.	32
Pg 1-5	When will DOE provide the separate cost study (DOE 1998a) that should be analyzed along with this SPD EIS.	33
Pg 1-5	What will be the cost to the utilities and rate payers for MOX fuel utilization? Will it be similar to spent fuel charges under the NWPA provisions? Are all of the process development costs for MOX fuel a responsibility of DOE?	34
Pg 1-8	Why is the lack of homogeneity in less favor than the mobilization and vitrification in the ceramic can-in-canister approach? Has the criticality and heat transfer impacts been fully evaluated?	35
Pg 1-9	Why hasn't the Disassembly and Conversion Demonstration Environmental Assessment and Research and Development Activities Report (DOE 1998b) not accompany this SPD EIS?	36
Pg 1-9	Why does the ceramic can-in canister approach provide greater proliferation resistance than the glass can-in-canister approach? What lesser environmental impacts justify the ceramic over the glass can-in-canister approach?	37
Pg 1-9	DOE states that Hanford's cleanup mission is the site's top priority. Does SRS not have the same top priority of weapons site remedial site cleanup?	38
Pg 1-10	Why does the postirradiation examination of the MOX lead test assemblies not be a most desired requirement? This examination is most important in the determination of fuel defects, contamination, neutron absorber capability, hydrogen embrittlement and lastly physical characteristics of creep and swelling of the fuel material.	39
Pg 1-11	Will the pit conversion facility commence about 2001 before final evaluation is completed of the DOE/EA-1207 which intended to last up to four years?	40

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MD322-31

MOX Approach

Under the hybrid alternatives analyzed, up to 33 t (36 tons) of surplus plutonium would be made into MOX fuel. DOE reviewed the chemical and isotopic composition of the surplus plutonium and determined in the *Storage and Disposition PEIS* ROD that about 8 t (9 tons) of surplus plutonium were not suitable for use in making MOX fuel. Furthermore, DOE has identified an additional 9 t (10 tons) for a total of 17 t (19 tons) that have such a variety of chemical and isotopic compositions that it is more reasonable to immobilize these materials and avert the processing complexity that would be added if these materials were made into MOX fuel. The criteria used in this identification included the level of impurities, processing requirements, and the ability to meet the MOX fuel specifications. If at any time it were determined that any of the 33 t (36 tons) currently proposed for MOX fuel fabrication was unsuitable, that portion would be sent to the immobilization facility. While there is a benefit gained from the use of this MOX fuel in domestic, commercial reactors, the goal of the surplus plutonium disposition program is not energy recovery, but instead disposition of the plutonium in a safe, timely, and cost-effective manner.

MD322-32

General SPD EIS and NEPA Process

This comment is addressed in response MD322-28.

MD322-33

Cost

The cost analysis report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009), was issued in July 1998. Another report, the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013) was issued in November 1999. These reports are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

MD322-34

MOX Approach

Use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium

as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. The MOX facility would produce nuclear fuel that would displace LEU fuel that utilities would have otherwise purchased. If the effective value of the MOX fuel exceeds the cost of the LEU fuel that it displaced, then the contract provides that money would be paid back to the U.S. Government by DCS based on a formula included in the DCS contract.

The utilities will continue to pay the standard surcharge per kilowatt-hour of electricity used for spent fuel under the NWPA, as amended, regardless of whether the spent fuel is from commercial MOX fuel or LEU fuel. There are no known process development costs for MOX fuel.

**MD322-35**

**Immobilization**

The immobilization analysis included in the *Storage and Disposition PEIS* focused on the use of technologies that would blend the surplus plutonium directly with either HLW glass or ceramic in a homogenous mixture. Based on public comments on the *Storage and Disposition PEIS* and technology developments, DOE accelerated research, development, and testing of various aspects of the can-in-canister approach to establish the optimum plutonium concentration and chemical composition of a form that could be readily processed, satisfy nonproliferation concerns, and perform well after emplacement in a potential geologic repository. Included in these efforts were evaluations of criticality and heat transfer issues in addition to those that had been conducted for the homogenous forms. In the *Immobilization Technology Down-Selection Radiation Barrier Approach* (UCRL-ID-127320, May 1997), LLNL recommended that DOE pursue only the can-in-canister immobilization approach based upon its superiority to the homogenous approaches in terms of timeliness, higher technical viability, lower costs, and to a lesser extent, lower environmental and health risks. Based on further recommendations from a committee of experts representing DOE, the national laboratories, and outside reviewers, DOE subsequently determined that immobilizing surplus plutonium materials would be best accomplished using the ceramic process. NAS is also currently studying the ability of the immobilization approach to meet the Spent Fuel Standard, including the heat transfer impacts of this approach.

**MD322-36****Pit Demonstration EA**

There is no need for the *Pit Disassembly and Conversion Demonstration EA* (DOE/EIS-1207, August 1998) and its FONSI (August 1998) to accompany this SPD EIS because the environmental impacts of the pit demonstration will not affect the cumulative impacts of dispositioning surplus plutonium. This EA is referenced in this EIS for the purpose of keeping the decisionmaker and the public fully informed about all aspects of the surplus plutonium disposition program.

**MD322-37****Immobilization**

This SPD EIS considers the immobilization of surplus weapons-usable plutonium in two forms, ceramic and glass; both would be produced using similar processes based on a can-in-canister approach. Past analyses have indicated that both ceramic and glass would be acceptable for immobilizing surplus plutonium. Recently, DOE completed a series of evaluations to determine whether the properties associated with ceramic or glass would be better suited for immobilizing plutonium (*Fissile Material Disposition Program Final Immobilization Form Assessment and Recommendation* [UCRL-ID-128705, October 1997]). These studies indicated that the use of ceramic would be more resistant to the threat of theft, diversion, or reuse, due to the greater difficulty associated with trying to chemically extract and separate plutonium from the ceramic form than is required for the glass form. The studies also found that ceramic form would likely be more durable over a longer period of time under geologic repository conditions, would require less shielding to protect workers, and would potentially provide significant cost savings. Only minor differences between the two forms are expected in terms of potential environmental impacts, as described in Section 4.29. Whereas the ceramic form would result in slightly higher potential offsite radiological exposures from normal operations, facility accident impacts, and water and electricity requirements, the glass form would result in higher routine and accidental transportation impacts. Overall radiological exposure to workers, as well as anticipated waste types and volumes, would not be expected to differ appreciably between the two forms.

**MD322-38**

**Alternatives**

DOE believes that Hanford's efforts should remain focused on its current high-priority cleanup mission. The importance of cleanup at Hanford was taken into consideration in identifying preferred sites for surplus plutonium disposition activities; however, no decision has been made. While it is true that SRS also has cleanup activities underway, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure.

**MD322-39**

**Lead Assemblies**

At the time the SPD Draft EIS was issued, the DOE procurement process to acquire MOX fuel fabrication and reactor irradiation services was not completed. DOE was unsure whether the team that would be selected would be able to use its existing knowledge to determine MOX fuel performance, or if the team would require lead assembly testing to ascertain fuel performance. In consultation with DCS, the team selected during the procurement process, DOE believes that limited lead assembly fabrication and postirradiation examination will be required.

**MD322-40**

**Pit Demonstration EA**

Should DOE decide to build a pit conversion facility, this facility would begin operating about 2004 by which time the pit disassembly and conversion demonstration would be completed. Facility design, however, would take place during approximately 1999 through 2001. While the pit demonstration would continue for up to 4 years, the information from the demonstration would be generated, gathered, and available on an ongoing basis. This means that information transfer regarding the fine-tuning of the operational parameters of a pit conversion facility could be provided on a continuous basis throughout the facility design phase. Also, because the information from the demonstration would be used to supplement other information developed to support the design of a pit conversion facility, it would not be necessary for the demonstration to be completed before beginning facility design and construction.

Pg 1-12	Is D and D a major category in the direction of DOE's blueprint for waste cleanup (DOE/EM-0342) ? To what extent does this SPD reflect the implications of waste management and environmental restoration in the paths to closure document?	41
Pg 1-14	The SRS Actinide Packaging and Storage Facility is a planned facility, not in operation at this time according to DOE. What is the specific relationship between this planned facility at SRS and SPD? Special concerns relating to the environmental impacts for stabilization of the neptunium-237 aqueous solutions is required.	42
Pg 1-15	Has DOE completed further study and evaluation for safety and final thermal loading for the HLW canisters, using the criterion (ie, surrounding radiation barrier for immobilized plutonium)?	43
Pg 2-8	DOE needs to indicate the potential environmental impacts of the ceramic and glass can-in-canister technologies based on generic designs and compare to those impacts of the homogeneous facilities. DOE needs to evaluate the conceptual design and modifications required by full operational readiness of these facilities. The (DOE 1996a) Storage and Disposition Final PEIS is not adequate in present form for SPD facilities siting.	44
Pg 2-10	DOE's development of alternatives should clearly state that useful fissile material energy resource is either to be immobilized and buried as long-term HLW in geologic repository or that a portion of the surplus plutonium is to be utilized as MOX fuel for commercial LWRs.	45
Pg 2-12	DOE Feed Preparation Methods for immobilization is considering a major change from the wet-feed preparation process (aqueous processing) to a dry-feed process. It is stated that the dry-feed process requires less quantity of water and generates less amounts of waste, and has been chosen for use in this SPD EIS. This decision based on actinide removal from waste streams needs further evaluation primarily based on the long experience and operations for aqueous processing.	46
Pg 2-13	DOE needs to state clearly that for plutonium processing and storage considered in this SPD EIS, material unaccounted for (MUF) will not be allowed for the special nuclear material. The accountability must satisfy the proliferation concerns and inspections of IAEA.	47
Pg 2-13	DOE needs to further evaluate to determine if the Pit Disassembly and Conversion is adequate for the removal of gallium. The fuel poison will result in impurity in plutonium dioxide feed for MOX fuel fabrication. This	48

MD322

**MD322-41****Waste Management**

Comments on the draft and final *Accelerating Cleanup: Paths to Closure* documents (DOE/EM-0342, February 1998 and DOE/EM-0362, June 1998) are beyond the scope of this SPD EIS, although Section 1.8.2 of this SPD EIS describes the relationship between this EIS and those documents. Section 1.8.2 states that this EIS reflects the proposals in *Accelerating Cleanup: Paths to Closure*, to the extent possible, and that subsequent versions of that document will reflect the waste management and environmental restoration implications of the decisions made as a result of this EIS.

**MD322-42****Waste Management**

DOE has recently decided to delay the construction of APSF, and the *Supplement to the SPD Draft EIS* reflects modifications to disregard any benefit to the proposed facilities of APSF being built at SRS. Stabilization of neptunium 237 solutions would not occur within APSF, if built, and this process is not required to support the disposition of surplus plutonium.

**MD322-43****Immobilization**

This comment is addressed in responses MD322-35 and MD322-37.

**MD322-44****Immobilization**

DOE believes the analyses presented are adequate to support the decisions being addressed in this SPD EIS, including the facilities' siting. As a means of bounding the estimate of potential environmental impacts of the immobilization approaches to surplus plutonium disposition, the *Storage and Disposition PEIS* analyzed in detail the construction and operation of generic homogeneous ceramic immobilization and vitrification facilities. Although generic designs were the focus of the study, these designs were analyzed against parameters specific to each of the candidate sites to determine potential site-specific environmental impacts. Several variant immobilization technologies were also discussed in the *Storage and Disposition PEIS*. The subsequent ROD for that EIS states that DOE would make a determination on the specific technology on the basis of "the follow-on EIS" (this SPD EIS). In the tiered SPD EIS, the can-in-canister approach was identified as the preferred

immobilization technology and evaluated in detail as part of each alternative. As a basis for evaluating the alternative immobilization technologies and forms presented in the two documents, the environmental impacts associated with operating the ceramic and glass can-in-canister immobilization facilities evaluated in this SPD EIS were compared with the impacts associated with operating the homogenous ceramic immobilization and vitrification facilities evaluated in the *Storage and Disposition PEIS*. This comparison is presented in Section 4.29.

**MD322-45** **Alternatives**

In Volume I, Chapter 1 discusses the purpose of the proposed action and Chapter 2 describes the development of the alternatives.

**MD322-46** **Plutonium Polishing and Aqueous Processing**

DOE does not agree that aqueous processing for immobilization feed preparation requires further evaluation in this SPD EIS. In addition to higher water consumption and waste generation cited as examples in this EIS, the aqueous process would also present a higher potential for worker exposure to radioactive materials and greater risk to the public. An aqueous process for the conversion of plutonium for immobilization would also require much more control to provide adequate protection against proliferation and to provide for proper oversight by IAEA. Therefore, aqueous processing/wet feed for immobilization is not a reasonable alternative.

**MD322-47** **Nonproliferation**

Security for the proposed surplus plutonium disposition facilities would be implemented commensurate with the usability of the special nuclear material in a nuclear weapon or improvised nuclear device. At any time, the total amount of special nuclear material in each facility, or in any material balance area within each facility, would be known and so material unaccounted for would be avoided. Physical inventories, measurements, and inspections of material both in process and in storage would be used to verify inventory records. In addition, each of the proposed facilities includes design requirements for space, and to varying degrees, access for an international body to verify compliance with international nonproliferation policies.

However, the actual implementation process for ensuring international safeguards of the Russian and U.S. material is not as yet fully defined. That process is part of ongoing sensitive negotiations between the two countries. Under the details of those negotiations, the verification process for compliance of the proposed facilities with international nonproliferation policy could be conducted by a bilateral arrangement that includes access to the proposed facilities only by members of the U.S. and Russian governments, or it could include access to the facilities by an international body, such as IAEA.

**MD322-48                      Plutonium Polishing and Aqueous Processing**

On the basis of public comments received on the SPD Draft EIS, and the analysis performed as part of the MOX procurement, DOE has included plutonium polishing as a component of the MOX facility to ensure adequate impurity removal from the plutonium dioxide. Appendix N was deleted from the SPD Final EIS, and the impacts discussed therein were added to the impacts sections presented for the MOX facility in Chapter 4 of Volume I. Section 2.18.3 was also revised to include the impacts associated with plutonium polishing.

	is a major problem and may require a separate Plutonium Polishing Process. DOE has not made a decision on the Plutonium Polishing Process or whether, if needed, it would be placed in the facilities for Pit Conversion or at the MOX fuel fabrication facilities. Gallium contamination, like other neutron absorbing poisons, is a major concern in MOX fuel fabrication.	48
Pg 2-23	DOE needs to develop accident scenarios for the case of HEPA filter failure. The occurrence will not provide the DF of 10-4 that is required for 99.99% particle removal as small as 0.3 micron in a flowing airstream. DOE has postulated a LPF value of 1.0X10-5 for two HEPA filters. This is an operational problem and if sand filters are not used in conjunction, will the HEPA filter provide an LPF of 1X10-5 and will not be maintained.	49
Pg 2-23	DOE needs to clearly state that SRS has the edge over other facilities by providing the least transportation impacts and necessary experience in plutonium production.	50
Pg 2-27	DOE needs to clearly state the time schedules for construction and operation of the MOX Facility Description. Depending upon DOE's decision on immobilization of surplus plutonium, the DOE decision on MOX fuel fabrication depends on a number of other considerations (ie, lead test assemblies, utility acceptance, etc.). The tiered approach of SPD EIS is barely appropriate for siting of MOX fuel fabrication when so many other variants exist.	51
Pg 2-30	It is vital that a homogeneous mixture exists in the mixed oxide (ie, blending and milling the PuO2) to achieve the required enrichment and isotopic concentration of the uranium and plutonium powders and to adjust the particle size of the MOX powder. The determination of accurate particle size of the MOX fuel is a most important factor in estimation of severity of facility accidents.	52
Pg 2-32	DOE notes that the dose from pit-handling activities at Pantex could be reduced by 40% because the majority of pits are already in storage at Pantex.	53
Pg 2-56	DOE needs to determine if the time schedules, reduced cost, infrastructure and other advantages of using the 44-year-old contaminated and aging F-canyon Bldg 221-F outweighs the new building construction at SRS. It is also noted that use of Bldg. 221-F would result in about 0.5 LCF for a designed basis earthquake at SRS.	17
Pg 2-98	DOE needs to stress what is the meaning of site limit 10 mrem/year from all facility sources. This is the annual effective dose equivalent to the MEI	54

MD322

MD322-49

Facility Accidents

The assumed leakpath factor of  $1.0 \times 10^{-5}$  for operational HEPA filters is achievable and conservative. However, this SPD EIS also analyzed a number of accidents that involve various degrees of containment failure, including HEPA filter failures. Two of the most significant are the beyond-design-basis seismic event and the beyond-design-basis fire. Details on these and other scenarios are provided in Appendix K and the Facility Accident sections in Chapter 4 of Volume I. None of the proposed surplus plutonium disposition facilities are planning to use a sand filter, so credit has not been taken for that in the accident analysis.

MD322-50

Alternatives

In Volume I, transportation impacts at SRS are summarized in Chapter 4 and described in Appendix L. Infrastructure is also discussed in Chapter 4. As indicated in Chapter 1 of Volume I, the existing infrastructure at SRS is one of the reasons SRS was chosen as the preferred site for the proposed surplus plutonium disposition facilities. As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures or vehicle emissions are expected.

MD322-51

Purpose and Need

Appendix E includes schedules for each of the three proposed surplus plutonium disposition facilities and the lead assembly facility. This SPD EIS is tiered from the *Storage and Disposition PEIS* because the latter evaluated the disposition of weapons-usable fissile materials at a programmatic level. DOE committed in the ROD on the *Storage and Disposition PEIS* to do follow-on, site-specific NEPA analyses to determine the exact locations for the disposition facilities. The *Storage and Disposition PEIS* considered a broad range of technology options and candidate sites for the disposition of surplus plutonium, and the ROD narrowed the options to those evaluated in the SPD EIS.

The MOX approach includes the testing of up to 10 lead assemblies. However, the facilities where these assemblies would be built and tested already exist and can be quickly modified to support the MOX approach. Utility acceptance has already been addressed with the award of a contract

to DCS and the proposal to use the Catawba, McGuire, and North Anna commercial reactors with partial MOX cores.

**MD322-52****Facility Accidents**

DOE agrees that accurate particle size of the MOX fuel is an important factor in estimation of severity of facility accidents. The issue of MOX powder particle size was considered in the course of analysis for this SPD EIS as documented in the memorandum, *Particle Size of PuO<sub>2</sub> Generated by HYDOX-Ga Removal Process and Impact on Usability of DOE-HDBK-3010-94 ARF and RF Values* (personal communication from J. Mishima to J. Eichner, Science Applications International Corporation, December 15, 1997). The conclusion was that the values in DOE-HDBK-3010-94 were conservative and appropriate for use in the SPD EIS analysis. This is discussed in Appendix K.1.5.1.

**MD322-53****Human Health Risk**

Decisions on the repackaging of pits at Pantex have been revisited since the SPD Draft EIS was published. Section 2.18 and Appendix L.5.1 were revised to incorporate a modified transportation dose analysis. If the pit conversion facility is located at Pantex, the dose associated with repackaging the pits for shipment off the site could be avoided, thus eliminating approximately 10 person-rem/yr in worker exposure.

**MD322-54****Human Health Risk**

In the Human Health Risk portions of Section 4.32, the 10-mrem/yr limit is described in detail. It is stated that there is a 10-mrem/yr NESHAP dose limit from total site airborne emissions, as required by the Clean Air Act regulations and DOE Order 5400.5, *Radiation Protection of the Public and the Environment*.

	at the site boundary. This places a limit on the lifetime risk for maximally exposed individuals and average individuals in large population groups.	54
Pg 2-99	This is not one of DOE's best examples of commitment for removing spent fuel from the utility storage by January 1998.	55
Pg 2-102	With the exception of sulfur dioxide in the ceramic can-in-canister process all criteria pollutant emissions associated with either can-in-canister technology is within limits. If DOE determines that if scrubbers for the sulfur dioxide are required in the conceptual design, it should be clearly stated.	56
Pg 3-142	The radiation doses to workers from normal SRS operation in 1996 yields a total effective dose equivalent of 19 mrem for the average radiation worker from on-site releases and direct radiation. This same value of 19 mrem is shown for the Hanford workers in 1996; however, a lower person-rem does of 237 for SRS vs 266 for Hanford.	57
Pg 3-152	It is noted that DOE must exhibit constant attention and vigilance to reduce off-site liquid pathway radionuclide contamination. There is widespread contamination on-site at SRS.	58
Pg K-1	If the frequency of the initiating event is known, then the point estimate of increased risk of LCF per year may be helpful in understanding individual risk instead of population risk.	
Pg K-1	One type of risk, average individual risk is the product of the total consequence (if known) experienced by the population and the accident frequency, divided by the population.	59
Pg K-2	It is noted that the MACCS2 accident model code is capable of calculating individual consequences at the point of maximum consequences but it is not configured to calculate individual risk at the point of maximum risk.	
Pg K-5	It is noted that the accident factors for source term (ie, MAR, DR, ARF, RF and LPF) as indicated by DOE Handbook 3010-94 is questioned. DOE needs to justify the use of these factors in realistic accident scenarios. If the value of each of these factors depends on the details of the specific accident scenario postulated, then that detail must be provided to compare accident risk. Otherwise, the factors are judged to provide source term reduction without justification.	60
	It is most appropriate to use realistic model input parameters; conservative parameters should be used only to the extent necessary to compensate for uncertainties.	
		MD322

**MD322-55**

**Waste Management**

Section 4.28 was revised to discuss the potential environmental impacts of operating the reactors that would use the MOX fuel. As described in Sections 2.18.3 and 4.28.2.8, additional spent fuel would be produced by using MOX fuel instead of LEU fuel in domestic, commercial reactors. Spent fuel management at the proposed reactor sites is not expected to change dramatically due to the substitution of MOX assemblies for some of the LEU assemblies. Likewise, the additional spent fuel would be a very small fraction of the total that would be managed at the potential geologic repository. Issues related to a potential geologic repository for HLW and spent nuclear fuel are beyond the scope of this SPD EIS, but are being evaluated in the *Draft Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada* (DOE/EIS-0250D, July 1999).

**MD322-56**

**Air Quality and Noise**

The sulfur dioxide emissions for the ceramic can-in-canister process are within limits as shown in the immobilization sections of Appendix G (e.g., Table G-9).

**MD322-57**

**Human Health Risk**

The reason for the difference in total number of person-rem between the two sites is due to the different number of workers at SRS and Hanford. Total workforce dose (in units of person-rem) is calculated by multiplying the average worker dose by the number of workers at a given site. Thus, for SRS, 19 mrem multiplied by 12,500 workers yields 237 person-rem (237,000 person-mrem). At Hanford, 19 mrem multiplied by 14,000 workers yields 266 person-rem (266,000 person-mrem).

**MD322-58**

**Water Resources**

DOE acknowledges the commenter's concerns regarding contamination at SRS. Although beyond the scope of this SPD EIS, activities to remediate existing contamination at SRS are ongoing. In addition, SRS maintains an aggressive waste minimization and pollution prevention program as described in Section 3.5.2.7. Analyses presented in Section 4.26.4.2 indicate that there

would be no discernible impacts to groundwater or surface water quality at SRS from construction and normal operation of the proposed surplus plutonium disposition facilities. If all the proposed facilities were located at SRS, a very small incremental annual dose to the surrounding public from normal operations would result via radiological emission deposition on agricultural products, fisheries, and water sources (i.e., the Savannah River). This dose (about 1.6 person-rem/yr) would be 0.0007 percent of the radiation dose that would be incurred annually from natural background radiation. It has also been estimated that a small fraction of this dose (about 0.10 person-rem/yr) would be specifically due to the consumption of aquatic biota (fish or crustaceans) and drinking water (i.e., from the Savannah River) from minute quantities of air deposition and/or from any potential wastewater releases. This estimation is based on historical characteristics associated with F-Area releases to Savannah River outfalls. Nevertheless, public doses incurred from the uptake of these sources were determined to be well below Federal, State, and local regulatory limits.

**MD322-59****Facility Accidents**

Appendix K.1.1.2, Uncertainties and Conservatism, presents the rationale for preserving the consequences and frequency metrics as the primary accident analysis results, as opposed to risk metrics. However, to assist the interested reader in using the results to calculate average individual risks, the discussion of risk measures was revised to include reference to population figures, which are needed for calculating average individual risk for those living within 80 km (50 mi) of the site. As discussed in Appendix K.1.1.1, average individual risk is sensitive to the choice of the population that is included in the calculation, so care must be taken when interpreting such results.

**MD322-60****Facility Accidents**

DOE-HDBK-3010-94, *Airborne Release Fractions/Rates and Respirable Fractions for Nonreactor Nuclear Facilities*, is the accepted standard for determining ARF and RF values. The values specified in that handbook are phenomenology dependent. Application of the values to a specific accident scenario requires characterization of the phenomena associated with that accident and matching of those phenomena with like phenomena in the handbook. Where phenomena do not match exactly, scaling of values may be needed to better characterize the accident. Chapter 7 of the handbook

contains application examples that can be reviewed to clarify the appropriate use of the values. The recommended values in the handbook are bounding, which adds an element of conservatism to any analysis in which they are used but they are also considered realistic for analysis in this SPD EIS. MAR, DR, and LPF factors are developed purely in the context of the analyzed accidents and do not originate from DOE-HDBK-3010-94. Appendix K.1.5 provides information on the specific accident scenarios postulated. Further details are provided in the referenced data reports which are available in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

Pg K-12	For an aircraft crash scenario, the DOE Handbook 3010-94 recommends values for debris impact in powder and recommends bounding ARF and RF values of $1 \times 10^{-2}$ and 0.2 respectively. However, DOE attempts to justify use of a value of $3 \times 10^{-2}$ for RF and a value of $1 \times 10^{-2}$ for ARF corresponding to a decreased source term of 104g for the MOX facility and 18g for pit conversion facility accident.	61
Pg K-22	It is interesting to note that for an explosion in sintering furnace a bounding ARF of 0.01 and RF of 1.0 is assumed and based on an LPF of $1 \times 10^{-5}$ for two HEPA filters, a stack release of $5.6 \times 10^{-4}$ g of Pu-239 (in the form of MOX powder) is postulated.	62

MD322

**MD322-61**

**Facility Accidents**

While, from a risk standpoint, the use of an arithmetic average RF is appropriate, the use of this method is inconsistent with the use of bounding values from DOE-HDBK-3010-94 for other accidents. Appendix K.1.5 was revised to use a respirable fraction of 0.2 and an airborne release fraction of  $1.0 \times 10^{-2}$  for aircraft debris impact into plutonium dioxide powder.

**MD322-62**

**Facility Accidents**

DOE acknowledges the comment.

AUG-11-98 TUE 07:40

P. 02

*Maria Holgala  
DOE*

I'm Charles Walker and I am fortunate enough to represent the people of Burke and Richmond Counties as Senate Majority Leader of the Georgia State Senate. A good deal of these people are touched by the Savannah River Site each day.

Now that the Cold War is over, the United States and the former Soviet Union have agreed to dismantle their nuclear arsenals. The people at SRS and the CSRA contributed to our Nation's nuclear deterrent efforts for over four decades and now these same people are prepared to take on the new, critical mission of plutonium disposition. In particular, the Savannah River Site's unique history make it the logical choice for the pit disassembly and conversion mission.

Why would DOE consider another possible site for this mission? Well, perhaps another facility has the experience that SRS has had handling plutonium. However, DOE acknowledged that SRS was uniquely qualified to handle plutonium when it named SRS as the site of choice for Mixed Oxide Fuel Fabrication.

Perhaps another facility can accomplish the mission at a lower cost to taxpayers. Well, DOE's own cost report that accompanied the draft EIS for Surplus Plutonium Disposition acknowledged that locating the pit disassembly facility at SRS would save taxpayers at least \$60 million. However, the potential savings could reach \$715 million.

Well, if SRS has the experience, infrastructure and can accomplish the pit disassembly mission at a lower cost to taxpayers, perhaps it is a safety issue. Well, how could that be because we know that SRS has the best safety numbers of the entire DOE complex.

Perhaps as Federico Peña indicated on his visit to SRS and CSRA, community support is a major portion of the decision making process. I myself was part of a delegation that met with the Secretary, both here and in Washington, to express the community's support of the plutonium disposition mission at SRS. Other groups have met with DOE to state the overwhelming support that SRS has in the community. In fact, we invite Secretary Richardson to visit SRS and the CSRA to obtain a sense of this tremendous support.

I believe that these hearings will provide overwhelming arguments as to why DOE will decide that SRS is the preferred site for the Pit Disassembly Mission.

Thank you for this opportunity to express my comments.

SCD53

SCD53-1

Alternatives

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

Because this comment relates directly to the cost analysis report, it has been forwarded to the cost analysis team for consideration. The *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses for alternatives associated with the preferred alternative, is available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

CHARLES W. WALKER  
District 22  
P.O. Office Building  
Augusta, Georgia 31403-4200  
MAJORITY LEADER



*The State Senate*  
Atlanta, Georgia 30334

COMMITTEES:  
Agriculture, Forestry,  
Conservation and Natural Resources, State Parks  
and Recreation, Transportation,  
Tourism and Commerce

June 26, 1997

To the Department of Energy & concerned Citizens of the Central Savannah River Area:

I appreciate the opportunity to comment on the Department's decision to consolidate plutonium missions at the Savannah River Site.

The Savannah River Site continues to play a leadership role in this country and has the only large-scale plutonium processing facility in the country. From a national perspective, why would you spend the dollars to transport the plutonium to a site that is not a plutonium handling operation at one site. Furthermore, the Savannah River Site has a great safety record for more than 40 years with the technical expertise and experience in handling plutonium.

The community fully supports SRS for the reasons stated above as the lowest cost alternative overall with the least adverse environmental impact. You will not maintain level, breadth and depth of support if found at no other site in the complex.

I support this effort and am committed to working with you to do whatever is within my power to assist in stabilizing the workforce and increase employment opportunities at the Savannah River Site.

I ask you to promptly review the request and report back to me when you are able to address you this evening. Thank you.

Sincerely,

Charles W. Walker  
Senate Majority Leader

1

SCD104-1

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

SCD104



United States  
Department  
of Energy

Comment Form

NAME: (Optional) Joseph Gilkison  
ADDRESS: 3702 WOODLEY TRAIL, MARIETTA, GA 30067  
TELEPHONE: ( ) \_\_\_\_\_  
E-MAIL: \_\_\_\_\_

I want to see a secondary being in place of building and operating the Pu Immobilization facility, MIX facility, and the Plut conversion facility at the Savannah River site. Locating these facilities at SRS appears to be the most economical alternative. The SRS currently have the trained work force and infrastructure for these missions. In addition the SRS is currently involved with handling and storage of Pu.

The alternative site for the Plut conversion facility at Pantex does not make sense to me. PANTEX does not currently have the trained and experienced work force for handling the fuel, starting it Pu handling at PANTEX will open that site to new hazardous waste streams not currently being handled by that site.

In my opinion, the Savannah River site is the obvious better choice for all three missions.

SCD54

SCD54-1

Alternatives

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

I am pleased to have the opportunity to provide comments to DOE on an issue of such global importance as the disposition of weapons surplus plutonium. The following statements represent my personal positions on the "Surplus Plutonium Disposition Draft Environmental Impact Statement" (DOE/EIS-0203-D), and should in no way be construed as being representative of the positions of my employer or any organization that I represent in any official capacity. All of the following comments should be considered in the context of my personal belief that consolidation of all aspects of the plutonium disposition mission at a single site has decided cost, management, environmental and safety advantages over other alternatives.

1

As brought out by several commenters at public hearings on this draft EIS, public support, or at least public acceptance, of plutonium disposition missions will require the highest level of public and worker safety and environmental protection. The overall success of plutonium disposition missions will require that vigorous environmental management (including both on-site and off-site environmental monitoring) and emergency preparedness programs are conducted as integral and vital parts of the mission, not as "overhead" functions as they seem to be currently viewed by DOE. Independent participation in these programs by agencies of affected state and local jurisdictions is essential to their success, and DOE should facilitate realistic participation in these programs through new or existing Agreements in Principle (AIP's) with affected jurisdictions.

2

WD023

**WD023-1****Alternatives**

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at one site. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

**WD023-2****DOE Policy**

DOE Order 151.1, *Comprehensive Emergency Management System*, contains requirements for emergency-related offsite interfaces addressing accident conditions. This order states that Hazards Survey/Assessment results should be used to generate a listing of all services which may be needed to respond to postulated accident conditions. Examples of services which may be required include hospitals, fire departments, law enforcement, accident investigation, analytical laboratory services, ambulance services, coroners, suppliers, contractors, and others. Services needed should be checked against the capabilities of the identified interface organizations and agencies to ensure all are addressed. An interface should be established with each entity from which support will be needed and appropriate agreements prepared. For multiple-facility/sites, the contractor and operations/field office with site-wide responsibility should provide centralized point of coordination. The agreement should contain, at a minimum, the following information (1) the specific service to be provided; (2) point of contact and information required to initiate the service; (3) any constraints which might preclude the organization from meeting its obligation; (4) public information release protocols; (5) financial arrangements, including commitments by the facility/site to provide training, equipment, and facilities to the entity providing the service (considerations include indemnification for injury to persons or loss and damage to property); and (6) periodic re-examination of the provisions and a renewal or termination date.

If a facility/site is to provide support to an offsite agency under the good neighbor policy or through mutual aid agreements, those support interfaces should be documented. In addition, DOE radiological emergency response

Public perception of the risks related to the transportation of plutonium between DOE facilities, and public acceptance of them, is critical to the success of the entire plutonium disposition mission. The existence of knowledgeable emergency response personnel at the state and local level, armed with both the training and equipment which would be required to respond to a transportation incident involving plutonium is a critical component in obtaining this public acceptance. State and local response personnel, however, do not have ready access to specialized equipment and training required to make a radiological assessment of a transportation accident involving weapons-grade plutonium. It is incumbent on DOE to make such equipment and training available to response personnel in jurisdictions through which plutonium would be shipped under this EIS.

2

The EIS discusses in some detail both the postulated effects of plutonium disposition facility accidents and accidents during transportation of plutonium between DOE sites. The information presented, however, is incomplete, and does not present a true picture of the potential severity of an accident involving weapons grade plutonium. Some of the issues that I feel need to be addressed in the final EIS are:

3

1) The EIS does not present sufficient information regarding the short-term and long-term effects of the deposition of plutonium either during a transportation accident or a facility accident. The EIS does mention that long-term effects of plutonium deposition, including the resuspension and

WD023

assets are available to support offsite officials in the event of a radiological incident. Facilities/sites should coordinate with offsite officials to provide information on the availability and capabilities of DOE radiological emergency response assets. Facility/site plans should describe integrated support from other offsite response organizations responding to emergencies. The organizations may include groups from outside the facility/site (emergency planning zone) that respond under provisions of the Federal Radiological Emergency Response Plan for radiological emergencies; the National Oil and Hazardous Substances Pollution Contingency Plan, also known as the National Contingency Plan, for oil and nonradiological hazardous material emergencies; or the Federal Response Plan, if the situation is declared an emergency or major disaster by the President. If the county(ies) is declared a Presidential disaster area and the Federal Response Plan is activated, FEMA will establish a Disaster Field Office, from which Federal and State personnel will coordinate activities.

#### WD023-3

#### Facility Accidents

Appendix K.1.4.2 provides the rationale for focusing on the inhalation pathway when calculating plutonium dose. This is the pathway of significance for estimating doses due to the postulated accidents analyzed in this SPD EIS. While these accidents would deposit plutonium on the ground, there would be ample opportunity to interdict any potential significant doses from resuspension or through food or water pathways. The consequences, therefore, would be mainly economic rather than health related. The transportation analysis deals with the risk of all accidents along a route, rather than the consequences of a single accident at a specific location. Appendix L.8.4 presents a description of the uncertainties inherent in this approach. Appendix L.6.3 was revised to include a description of specific impacts of hypothetical accidents.

In general, economic costs can not be calculated with any reasonable degree of accuracy. Because of this, as well as the very low probability of accidents of the magnitudes considered for purposes of analysis, the impacts on natural-resource-related economies were regarded as beyond the scope of analysis. Long-term effects of contamination following a facility or transportation accident were not analyzed in detail for this EIS because the

inhalation of plutonium and the ingestion of contaminated crops are controllable through interdiction. In previous discussions, DOE has indicated that it views the effects of deposited radioactive materials as being more in the "environmental" arena than the "emergency response" arena. DOE should fully discuss the potential for ground contamination resulting from facility or transportation accidents, and discuss the short-term and long-term effects of such contamination, including the need for interdiction of lands and agricultural restrictions.

3

2) The EIS does not discuss the potential for facility incidents initiated by malevolent acts. The EIS does briefly discuss malevolent acts related to transportation of plutonium by Safe Secure Trailer (SST), and dismisses them with the statement that "in no instance, even in severe cases ... could nuclear explosion or permanent contamination of the environment leading to condemnation of land occur." I find this view, particularly in today's environment of global unrest, to be particularly troubling. I strongly urge DOE to revisit both the facility and transportation accident sections of the EIS, and to specifically consider the effects of incidents initiated by malevolent acts. If necessary, this analysis could be presented as a classified appendix to the final EIS and an unclassified summary for publication.

4

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risk would be much lower than that associated with inhalation. Moreover, quantitative analysis of low-level contamination would require significant accident-, weather-, and site-specific analysis. In the unlikely event of an accident, DOE would thoroughly investigate potentially affected areas and determine the need for interdiction or other specific actions.

**WD023-4****Facility Accidents**

The possibility of malevolent acts is controlled through the DOE safeguards and security provisions that are associated with facility operations. Guidance in *Recommendations for the Preparation of Environmental Assessments and Environmental Impact Statements* (DOE Office of NEPA Oversight, May 1993) states that impacts should be analyzed if they are reasonably foreseeable. The definition of reasonably foreseeable requires that the analysis is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason. Malevolent acts are considered conjecture and were therefore excluded from analysis. Appendix L.6.5 was revised to expand the qualitative description of the consequences of malevolent acts during transportation.

3) The EIS does not discuss potential doses to emergency personnel responding to either facility or transportation accidents. Transportation accidents pose several challenges, particularly since Transportation Safeguards Division (TSD) convoys no longer carry radiation detection equipment. In the recently published report "Independent Oversight Evaluation of Emergency Management across the DOE Complex" (DOE Office of Environment, Safety and Health, July 1998), the DOE Office of Oversight notes that it took some 20 hours for a Radiation Assistance Program (RAP) team to determine that there had been no radiological release from a 1996 SST accident in Valentine, Nebraska involving nuclear weapons. As mentioned above, state and local response personnel do not typically have ready access to specialized equipment required for monitoring for weapons-grade plutonium, and the lack of a timely and credible radiation monitoring capability may significantly hamper response efforts, and may endanger response personnel.

5

4) The above-referenced report by the DOE Office of Oversight noted several complex-wide generic "weaknesses" in DOE emergency preparedness, including event classification and the determination of protective actions. The report noted that "(t)he Savannah River Site (SRS) emergency management program is fundamentally sound and includes the essential elements required by DOE orders." The report, however, does note that "the emergency

6

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Facility Accidents

The estimation of doses to emergency response personnel is not within the scope of the SPD EIS analysis. Response personnel are trained, protected, monitored for exposure, and restricted to specific dose limits. As discussed in Appendix K.1.4.1, calculation of specific doses to emergency response personnel is subject to the same analytical difficulties as calculation of doses to facility workers, so is not considered meaningful.

Transportation of special nuclear materials would use DOE's SST/SGT system. Since the establishment of the DOE Transportation Safeguards Division in 1975, the SST/SGT system has transported DOE-owned cargo, including pits, over more than 151 million km (94 million mi) with no accidents causing a fatality or release of radioactive material. The shipment of nuclear material (e.g., depleted uranium) using commercial carriers would be the subject of detailed transportation plans in which routes and specific processing locations would be discussed. These plans are coordinated with State, tribal, and local officials. The shipment of waste would be in accordance with the decisions reached on the *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste* (DOE/EIS-0200-F, May 1997) and the *WIPP Disposal Phase Final Supplemental EIS* (DOE/EIS-0026-S-2, September 1997). The transportation of special nuclear materials is the subject of detailed planning with DOE's Transportation Safeguards Division. The dates and times that specific transportation routes would be used for special nuclear materials are classified information; however, the number of shipments that would be required, by location, has been included in this SPD EIS. Additional details are provided in *Fissile Materials Disposition Program SST/SGT Transportation Estimation* (SAND98-8244, June 1998), which is available on the MD Web site at <http://www.doe-md.com>.

For emergency response planning, all shipments are coordinated with appropriate law enforcement and public safety agencies. If requested, DOE would assist these officials with response plans, and, if necessary, with resources in accordance with DOE Order 5530.3, *Radiological Assistance Program*. DOE has developed and implemented a Radiological Assistance Program to provide assistance in all types of radiological accidents. Through

operations center lacks an effective process and mechanisms to perform timely and accurate assessments of emergency event consequences”, and recommends that SRS “(i)mprove the consequence assessment process to ensure that source term estimation, dispersion modeling, consequence assessment, and formulation of protective actions can be completed in a timely manner”. The report further recommends that SRS “(p)rovide additional policy, guidance, and training to improve prompt and conservative classification decision-making by responsible emergency response organization personnel.” The report did not discuss emergency management capabilities at Pantex.

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Thank you for the opportunity to provide comments on this draft EIS.

James C. Hardeman, Jr.  
431 Meadowfield Trail  
Lawrenceville, GA 30043  
hardeman@mindspring.com

WD023

this coordination and liaison program DOE offers in-depth briefing at the State level. These activities would ensure that State and local officials are prepared for the initial response and that specialized equipment commensurate with the potential severity of the accident would be available. In the event of an accident, if requested by a State, tribal, or local agency, DOE would send a radiological monitoring assistance team from the closest of eight DOE regional offices located across the country.

**WD023-6****Facility Accidents**

It is not within the scope of this SPD EIS to address independent reviews of site-specific programmatic areas such as emergency preparedness. The existence of recommendations to improve what has been judged to be a “fundamentally sound” emergency management program at SRS does not invalidate the analyses performed for this EIS.

As part of the development of a transportation plan, details of emergency preparedness, security, and coordination of DOE with local emergency response authorities would be addressed before any hazardous material was shipped. Any additional training or equipment needed would be provided as part of the planning process. In addition to direct Federal assistance to State, tribal, and local governments for maintaining emergency response programs, there are national emergency response plans under which DOE provides radiological monitoring and assessment assistance. Under these plans, DOE provides technical advice and assistance to the State, tribal, and local agencies who might be involved in responding to a radiological incident.

This comment is being submitted by J., the initial J, Larry Harrison, 4175 Quinn Court, in Evans, Georgia 30809, work phone area code 803-208-7182. I'm commenting on the Surplus Plutonium Disposition, in particular, the pit disassembly and conversion process. Before I transferred to the Savannah River Site in 1992, I was involved with process development optimization for a production of commercial nuclear fuel for over 20 years. And despite all of the political pressures at work in determining the location of the pit disassembly and conversion facility, the final decision should be made on the basis of which location will provide the safest most efficient operation of all facilities involved in the disposition effort. I'd like to provide some input based on my commercial nuclear fuel fabrication experience. Though this, this experience was with uranium oxide pellets, the only type utilized in U.S. commercial reactors for power generation. It is still pertinent to mixed oxide (MOX) fuel pellets made from a blend of primarily uranium oxide with some plutonium oxide. I have worked for two different fuel fabricators, one where the conversion to uranium oxide powder was performed within the same facility as the fuel fabrication and another where the conversion process was located several hundred miles away from the fuel fabrication plant. The problems observed with the latter situation brings to mind some factors which need to be considered when selecting a site for the conversion facility. The manufacture of nuclear fuel is very difficult and an exacting process. The

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PD058

PD058-1

Alternatives

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

final acceptance or rejection of fuel may hinge on the particle size of distribution of the starting powder, parts per million of impurities, the impurity of the atmosphere gas in the furnace used to thermally treat the pellets, or a few ten thousandths of an inch in the pellet diameters after grinds, is to name just a few variables. Properties of oxide powder have a significant impact on the process fuel in fabricating pellets. It is difficult to write specifications for the powder to cover all variables which can impact the pelleting process and ultimately the acceptability of the fuel. It is a combination of the powder properties and variables and pelleting process which determine the final pellet characteristics. With MOX fuel the powder properties are particularly important as the blend of uranium and plutonium oxides must be extremely uniform. It is also difficult to perform testing in a lab scale equipment and reliably predict the outcome when the same material is processed through a production line because of many variables which influence final pellet characteristics. Location of the conversion facility in close proximity to the MOX fabrication plant would provide the opportunity for testing of material when needed. A hypothetical situation might be a batch of plutonium oxide powder which is barely out of specification. If a sample can be run through the nearby MOX facility and is determined acceptable pellets can be made, the cost of scraping and remaking powder can be avoided. This

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potential would not exist if the conversion and MOX plants are hundreds of miles apart. Due to the safety and security concerns associated with transporting plutonium, it would not be practical to build a MOX production line at the conversion facility solely for testing purposes. Due to the difficulty in detecting subtle changes in plutonium oxide powder properties, the problem may not be detected until the material is processed in the MOX facility. If the conversion facility site is distant from the MOX plant there will probably be more material in the "pipeline" with the same problem than if, if operations were adjacent to each other, again, due to the problems associated with transporting plutonium. DOE should carefully consider what capabilities are needed for purification, if any, to make acceptable plutonium oxide powder for fabricating commercial nuclear fuel and whether that processing is performed at the conversion or MOX facility or both. Also the capability to recycle and purify MOX scrap must be addressed. There are advantages in locating the purification capabilities at the conversion facility, and, if aqueous versus dry purification is deemed necessary, SRS is the obvious choice for conversion due to the existing capability to handle associated waste streams, while Pantex has none. Other considerations in selecting the pit disassembly and conversion site is analyzing the risks and costs associated with transporting plutonium in a form of pits to SRS, if the facility is located there versus transporting plutonium oxide from Pantex to SRS if the facility is at Pantex.

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Also even though there is a lot of experience with fabrication of MOX fuel outside the U.S., the plutonium oxide source was the recycle process versus weapons material. This difference will almost assuredly have some impact on MOX fuel fabrication require additional process development. This is another reason for co-locating the conversion and the MOX fuel fabrication facilities. Given that SRS is the site of choice for the MOX facility, above reasons and others clearly show that the pit disassembly and conversion should be located there also. I will submit a written copy of this by mail. Thank you very much. Bye.

1

PD058

HYDE PARK AND ARAGON PARK  
 IMPROVEMENT COMMITTEE, INC.  
 2024 Golden Rod Street  
 Augusta, Georgia 30901

August 13, 1998

Department of Energy Public Hearing  
 North Augusta, South Carolina

The Hyde Park, Aragon Park and Virginia Subdivision communities consist of approximately 1,500 to 2,000 residents. We are in favor that Surplus Plutonium Disposition be awarded to the SRS site with the following request:

-That jobs be given to qualified persons living in the CSRA (Central Savannah River Area) first before importing workers from outside the area.

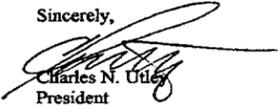
-That DOE put in place safe-guards against political savotage, for example; that budget restraints don't leave the area with undesirable contamination. That political parties Democrats/Republican don't abandoned the project for party sake. That the Department of Energy keep this process in place until all phases of the process is completed to include clean-up.

-That SRS/DOE continue to consider the highest/safest method of transporting material through communities, be at it's highest quality at all times. This is to assure that the communities that the route will be taken will be the most excluded route to avoid contact with communities.

-That workers safety will never be abandoned for the sake of the production. That workers safety continue to a number one priority for DOE/SRS as it has been in the past.

-That DOE/SRS remove the finish product in a reasonable time frame and that SRS never becomes a permanent storage place.

Sincerely,



Charles N. Utley  
 President

SCD11

SCD11-1

DOE Policy

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. The proposed facilities would be built and operated based on a competitive contract award. DOE would defer to the winning contractors to hire and train the people needed to build and operate the proposed facilities. As such, DOE cannot mandate that all the positions be filled by people living within the Central Savannah River Area, but it is likely that many of the positions would be filled by local hires.

SCD11-2

DOE Policy

DOE acknowledges the commentor's concern that the surplus plutonium disposition program has the support necessary to reach completion. The U.S. Congress will continue to appropriate the funds necessary to honor the agreements made by Presidents Clinton and Yeltsin regarding mutual reduction of plutonium stockpiles. When the missions have been completed and the surplus plutonium disposition facilities are no longer needed, deactivation and stabilization would be performed. As discussed in Section 4.31, features are being incorporated into the designs that would allow future deactivation and stabilization activities to be performed more quickly and easily to reduce the risk of radiological exposure; reduce the costs associated with long-term maintenance; and prepare the buildings for potential future use. DOE will evaluate options for D&D or reuse of the proposed facilities at the end of the surplus plutonium disposition program. At that time, DOE will perform engineering evaluations, environmental studies, and further NEPA review to assess the consequences of different courses of action.

SCD11-3

Transportation

DOE acknowledges the commentor's concern about transportation. As described in Appendix L.3.3, transportation of nuclear materials would be performed in accordance with all applicable DOT and NRC transportation requirements. Interstate highways would be used, and population centers avoided, to the extent possible.

The transportation of special nuclear materials is the subject of detailed planning with DOE's Transportation Safeguards Division. The dates and times that specific transportation routes would be used for special nuclear

materials are classified information; however, the number of shipments that would be required, by location, has been included in this SPD EIS. Additional details are provided in *Fissile Materials Disposition Program SST/SGT Transportation Estimation* (SAND98-8244, June 1998), which is available on the MD Web site at <http://www.doe-md.com>.

Transportation of special nuclear materials, including fresh MOX fuel, would use DOE's SST/SGT system. Since the establishment of the DOE Transportation Safeguards Division in 1975, the SST/SGT system has transported DOE-owned cargo over more than 151 million km (94 million mi) with no accidents causing a fatality or release of radioactive material. As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures or vehicle emissions are expected.

**SCD11-4** **DOE Policy**

DOE acknowledges the commentor's concern regarding worker safety at SRS. The health and safety of both workers and the public is a priority of the surplus plutonium disposition program. DOE would comply with all pertinent Federal, State, and local laws and regulations and would meet all required standards. Chapter 5 summarizes the pertinent environmental regulations and permits required by the surplus plutonium disposition program.

**SCD11-5** **DOE Policy**

It is not DOE's intention to make SRS a permanent storage site for surplus plutonium disposition material. MOX fuel would be transported to commercial reactors to be used. The resulting spent fuel would be temporarily stored at the reactor sites until it is sent to a potential geologic repository for permanent disposal. Immobilized plutonium would be temporarily stored at SRS until it is sent to a potential geologic repository for permanent disposal as and when the repository becomes operational. For purposes of this SPD EIS, DOE has prepared a separate EIS, *Draft Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada* (DOE/EIS-0250D, July 1999), which analyzes the environmental impacts from construction, operation and monitoring, related transportation, and eventual closure of a potential geologic repository.



United States  
Department  
of Energy

Comment Form

NAME: (Optional) Robert Ingham  
ADDRESS: 311 Windsor Ct, Hepzibah, GA 30815  
TELEPHONE: 706-771-9400  
E-MAIL: PUBLIC AWARENESS ALLOWS FOR  
PUBLIC RESPONSIBILITY

SEE RICHMOND COUNTY DEMOCRATIC COMMITTEE  
FOR E-MAIL  
ROBERT INGHAM -  
OR GEORGIA DELEGATES

SCD64

SCD64-1

General SPD EIS and NEPA Process

DOE acknowledges the commentor's views on the value of public awareness in connection with the surplus plutonium disposition program. DOE used several means to solicit comments on the surplus plutonium disposition program from the public; State, local, and tribal officials; special interest groups; and other interested parties. These include mail, a toll-free telephone and fax line, and the MD Web site. In addition, DOE has conducted public hearings in excess of the minimum required by NEPA regulations on the weapons-usable fissile materials disposition program and discussed materials disposition in many other public forums. Moreover, MD has produced fact sheets, videos, reports, and other information on issues related to surplus fissile materials disposition to enable the public to participate in a meaningful way.



**International Brotherhood of Electrical Workers**  
 LOCAL UNION 1579  
 1250 REYNOLDS STREET  
 AUGUSTA, GEORGIA 30901  
 Phone: (706) 722-6357 • Fax: (706) 724-9792  
 August 13, 1998

**MOX & PIT DISASSEMBLY & CONVERSION PROJECTS**

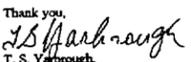
- The Augusta Building & Construction Trades Council is a major stakeholder of SRS. Our construction workers are the true cold war warriors.
- I want to voice the Building Trades unequivocal support for SRS to be the DOE's choice as the site for plutonium disposition. Our craftsmen not only have built nuclear and chemical operating facilities but they also have performed millions of hours of work under radiological conditions. They understand the strict discipline it requires to safely perform under these conditions.
- Speaking of safety, we in the South have good manners and we will not talk badly about another DOE site. However, I do want to let you know what our construction crafts have achieved in an extremely hazardous industry. Working with our contractors, our goal is "Zero Accidents". This means we view "no injury" to be acceptable. Since 1989 we have achieved the following records:
  1. 1,000,000 million SAFE hours = 29 times
  2. 2,000,000 million SAFE hours = 9 times
  3. 2,500,000 million SAFE hours = 4 times
  4. 5,000,000 million SAFE hours = 1 time
- SAFE Hours means we did not experience any lost workday cases. It means our members came home to their families every evening the same way they left for work in the morning - with all of their fingers, with both hands, with both arms, with both legs and with a smile on their face because they know that SAFETY is important at the Savannah River Site!

Working with Bechtel, we established the S. A. F. E. - T process (Self-Awareness for Employees Team). Our craft stewards and workers designed a NO NAME - NO BLAME process that heightens worker awareness of safe and at-risk practices. We have Craft Workers observing work activities and provide feedback to reinforce positive or safe actions, and to help bring attention to at-risk work practices through discussion with the worker at the conclusion of the observation. We encourage comments to identify strengths and weaknesses in our safety effort.

I challenge you to find a better construction safety environment in the DOE complex.

- I don't want to take all of your time, so let me just summarize by saying that both MOX and the PIT DISASSEMBLY projects should be located here. The Building Trades and the entire community of the CSRA have supported SRS since the first shovel of dirt. We have the skilled workforce to SAFELY build and operate these facilities.

All we need is y'all to make a quick decision and let's go to work!

Thank you,  
  
 T. S. Yarbrough  
 Business Manager & Financial Secretary

SCD10

### SCD10-1

### Alternatives

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

My name is Joan King. I'm living in White County, North Georgia. I followed nuclear issues for some time and have attended numerous DOE hearings. I'm familiar with the disposition problem. I've been down to Savannah, down to Augusta when they were discussed and I am opposed to using MOX fuel. I think this is a very slippery path that will lead to many many more problems in the future. I know we have to dispose of this stuff. I think we have the ability to glassify it to do a number of things. I know the government promises a once through process but there is no way they can control this in the future. We don't have the institutional consistency to be able to assure people that this will take place.

We need to immobilize this in glass and get it underground. We do not need to promote the nuclear industry by giving them another form of fuel. That if heading toward a plutonium economy which will be disastrous for the rest of the world and for future generations. My number is area code 706-878-3459. I appreciate this and I am going to try follow it up with a fax to restate these so you will have a hard copy for the record. Thank you very much. Bye.

PD001

**PD001-1**

**Alternatives**

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

U.S. policy dating back to the Ford Administration has prohibited the commercial, chemical reprocessing and separation of plutonium from spent nuclear fuel. The use of U.S. surplus plutonium in existing domestic, commercial reactors does not involve reprocessing (reprocessing is a chemical separation of uranium, transuranic elements [including plutonium], and fission products from spent reactor fuel and the reuse of the plutonium and uranium to produce new fresh fuel). The proposed use of MOX fuel is consistent with the U.S. nonproliferation policy and would ensure that plutonium which was produced for nuclear weapons and subsequently declared excess to national security needs is never again used for nuclear weapons. To this end, surplus plutonium would be subject to stringent control, and the MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program.

**PD001-2**

**Alternatives**

Use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors.

ATTENTION: DOE, Department of Storage and Disposition of Fissile Materials

This fax is a follow-up to a comment made by phone from Joan O. King made today, July 22, 1998

I have followed nuclear issues for many years and have attended DOE hearings of the Storage and Disposition of surplus fissile material. I am opposed to the use of plutonium as reactor fuel\_\_the MOX option.

We have adequate methods for immobilizing fissile material taken from dismantled nuclear weapons. We had adequate sources of uranium for new fuel. We do not need to do anything that would promote a "plutonium economy" or encourage reprocessing by any nation including our own.

I have heard the arguments in favor of burning plutonium in U.S. reactors and the government's promise of a "once through" process. These are good intentions, but there is no way the present government can control what is done in the future. History has proved the fragility of promises like this.

**DO NOT PROMOTE ANY PROGRAM THAT USES PLUTONIUM AS FUEL.**

Joan O. King  
304 Manor Drive  
Savatee, GA 30571

(706) 878-3459

FD001

**FD001-1**

**Alternatives**

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

U.S. policy dating back to the Ford Administration has prohibited the commercial, chemical reprocessing and separation of plutonium from spent nuclear fuel. The use of U.S. surplus plutonium in existing domestic, commercial reactors does not involve reprocessing (reprocessing is a chemical separation of uranium, transuranic elements [including plutonium], and fission products from spent reactor fuel and the reuse of the plutonium and uranium to produce new fresh fuel). The proposed use of MOX fuel is consistent with the U.S. nonproliferation policy and would ensure that plutonium which was produced for nuclear weapons and subsequently declared excess to national security needs is never again used for nuclear weapons. To this end, surplus plutonium would be subject to stringent control, and the MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program.

**FD001-2**

**DOE Policy**

For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation would be a once-through cycle with no reprocessing.

**RESOLUTION**  
**SUPPORTING THE SAVANNAH RIVER SITE'S MAJOR PLUTONIUM MISSIONS**

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

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

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

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

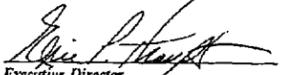
WHEREAS, the Department of Energy in its Record of Decision recognizes the Savannah River Site as "a plutonium competent site with the most modern, state-of-the-art storage and processing facilities...with the only remaining large-scale chemical separation and processing capability in the DOE complex";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

WHEREAS, the Lower Savannah Region strongly supports continued plutonium missions for the Department of Energy's Savannah River Site;

NOW BE IT RESOLVED THAT the Lower Savannah Council of Governments strongly endorse major plutonium missions for the Savannah River Site and urges the Department of Energy to designate the Savannah River Site as its lead facility in plutonium management and disposition.

APPROVED THIS 13th DAY OF MARCH 1997, BY THE BOARD OF DIRECTORS OF THE LOWER SAVANNAH COUNCIL OF GOVERNMENTS.

  
Chairman  
Lower Savannah Council of Governments

  
Executive Director  
Lower Savannah Council of Governments

SCD87

SCD87-1

Alternatives

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

**RESOLUTION SUPPORTING THE SAVANNAH RIVER SITE'S  
MAJOR PLUTONIUM MISSIONS**

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

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

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

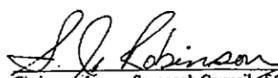
WHEREAS, the Department of Energy has expressed its confidence in the Savannah River Site by designating SRS as the preferred location for MOX fuel fabrication and immobilization; and

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

WHEREAS, the Lower Savannah River Region strongly supports continued plutonium missions for the Department of Energy's Savannah River Site, including pit disassembly and conversion.

NOW BE IT RESOLVED THAT the Lower Savannah Council of Governments strongly endorses major plutonium missions for the Savannah River Site and urges the Department of Energy to designate the Savannah River Site as its preferred facility for plutonium pit disassembly and conversion.

APPROVED THIS 10<sup>TH</sup> DAY OF AUGUST 1998, BY THE BOARD OF DIRECTORS OF THE LOWER SAVANNAH COUNCIL OF GOVERNMENTS.

  
\_\_\_\_\_  
Chairman, Lower Savannah Council of Governments

  
\_\_\_\_\_  
Executive Director, Lower Savannah Council of Governments

SCD07

**SCD07-1**

**Alternatives**

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



United States  
Department  
of Energy

Comment Form

NAME: (Optional) GREG LOWRY  
ADDRESS: 2212 RICHARDS ROAD AUGUSTA, GA. 30906  
TELEPHONE: (706) 796 1942  
E-MAIL: \_\_\_\_\_

- DOE SHOULD LOCATE ALL OF THE PLUTONIUM MISSIONS AT SAVANNAH RIVER SITE, INCLUDING THE PIT DISASSEMBLY OPERATIONS.
- SRS HAS THE PEOPLE WITH THE BACKGROUND NEEDED FOR THESE PROJECTS, COMMUNITY SUPPORT, AND AN UNPARALLELED SAFETY RECORD.
- LOCATING ALL THE PLUTONIUM DISPOSITION ACTIVITIES AT SRS WOULD BE MOST EFFECTIVE.

SCD55

SCD55-1

Alternatives

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

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



United States  
Department  
of Energy

Comment Form

NAME: (Optional) Nancy J Lowry  
ADDRESS: 2212 Richards Road, Augusta, GA 30906  
TELEPHONE: (706) 796-1942  
E-MAIL: \_\_\_\_\_

- SRS has the technical expertise needed to safely conduct the plutonium pit disassembly + conversion. SRS safety record is one of the best in the world -- another important consideration. SRS people know how to manage plutonium.
- SRS has safely managed more varied and complex programs than Pantex.
- It makes sense to consolidate all the plutonium disposition activities at SRS. The logistics are better than they would be if the pit disassembly operations were located at Pantex. It would be more cost effective as well.
- DOE would show both technical wisdom and financial responsibility by locating the plutonium pit disassembly operations at SRS.

SCD56

SCD56-1

Alternatives

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

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



United States  
Department  
of Energy

Comment Form

NAME: (Optional) Larry Milton  
ADDRESS: 292 Napa Dr. Augusta, GA 30909  
TELEPHONE: ( ) \_\_\_\_\_  
E-MAIL: \_\_\_\_\_

Overall an excellent public meeting.

Concerning the EIS report:

why has aqueous processing been left out of  
the alternatives being considered. Specifically,  
aqueous dissolution of pits directly versus  
the dry process should be more thoroughly  
evaluated for the pit disassembly and  
conversion option.

Aqueous processing is a proven technology versus  
the dry processing technology which is in  
development and has not been proven.

Also, one of the existing aqueous processing  
facilities at SRS would be very cost  
effective versus construction of a new facility.

1

SCD94-1

Plutonium Polishing and Aqueous Processing

Use of the F-Canyon at SRS to convert plutonium for use in either the immobilization or MOX facilities would require reconfiguring the canyon and keeping it in operation for another 10 years or more. DOE has already made a commitment to the public, the U.S. Congress, and DNFSB to shut the canyon down. DOE presented the SRS Chemical Separation Facilities Multi-Year Plan to Congress in 1997. This plan provides the DOE strategy for the expeditious stabilization of SRS nuclear materials in accordance with DNFSB Recommendation 94-1, and provides for the early stabilization of certain limited quantities of plutonium materials from RFETS. Once this stabilization effort is complete, the canyon would be shut down and D&D activities would begin.

The *Storage and Disposition PEIS* evaluated a homogenous ceramic immobilization facility that used an aqueous plutonium conversion process similar to that used in the SRS canyons. As shown in Section 4.29 of this SPD EIS, this process would require much larger quantities of water and other resources, and generate significantly more waste (between 2 and 191 times more depending on the waste category [see Table 4-224]) than the proposed processes included in this EIS. Based on this information, the aqueous plutonium conversion process was not considered to be reasonable and was eliminated from further study in this EIS.

**Surplus Plutonium Disposition Draft Environmental Impact Statement  
Public Meeting  
August 13, 1998  
North Augusta Community Center**

*Comments by Dr. Christopher Noah*

Thank you for the opportunity to provide comments on this draft EIS. My comments center on land use and environmental suitability of siting this project at the Savannah River Site. I do not make these comments only because I believe SRS is the best place for this project but because I have a background in examining the impacts of large-scale facilities.

In the 1970's I lead a team that planned the future use of the State of Alaska.

Also, for the eight years in Alaska I was an environmental planner, Director of the Council on Science and Technology and Deputy Commissioner of Environmental Conservation. During that time I had the responsibility for determining the environmental suitability for many large-scale projects such as the Trans-Alaska pipeline, a world-class molybdenum mine and one of the largest lead mines in the world.

I am past chair of the Federal Planners Division of the American Planning Association

I have taught NEPA and Environmental Policy courses.

I have been involved in approximately 20 siting studies of potential new missions at SRS.

SCD31

I wrote a comprehensive report on the future of SRS, including new missions and environmental impacts.

Finally, my education includes a masters degree in environmental affairs and a doctorate in environmental policy.

Land Use Qualities of SRS

From a land use perspective SRS is ideal. One of its most important land use attributes is its size. It is 310 square miles - Compared to this project's competitor's 25 square miles. From a land use perspective, this is significant. The size of the site ensures safety, security and enhances project diversity. Also, SRS possesses a complete suite of infrastructure for large scale projects, including: a recently upgraded water system (and access to additional water if needed through the intakes from the Savannah River), a state of the art communications system, newly constructed bridges, more than adequate electricity, upgraded roads, and a state of the art weather center, to name a few.

In 1996, I completed a large study of SRS - examining the potential future uses of SRS in light of the potential downsizing associated with the ending of the Cold War. For the report, I used SRS as a model. My conclusion from the 3-year study was that SRS was the perfect site to use as an example of how multiple, major industrial projects could co-exist. Complementing one another, thus saving money.

SCD31

SCD31-1

Alternatives

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

Environmental Qualities of SRS

From an environmental perspective, SRS ranks high. SRS does more than competently and safely produce nuclear weapons components and clean up the nuclear legacy that won the Cold War. It has a large cadre of scientists who conduct ecosystem studies, environmental impact research, cultural investigations, weather studies, and technological remediation demonstrations.

Over the past decades, SRS staff and management have ensured that site operations and environmental programs exist in a symbiotic relationship. Site operations, endangered and threatened species, the forest ecosystem, and cultural resources have all complemented each other. This is not by accident. SRS management has made a concerted effort to instill the multiple use planning concept at the site. What this means is that at SRS, new projects are not viewed narrowly. They take in the entire spectrum of site activities – studying how new missions and the environment can supplement each other. This approach has salutary side benefits as well. The Savannah Ecology Laboratory, of the University of Georgia, the U. S. Forest Service, and the University of South Carolina, not only conduct extensive research at SRS but profile its environmental and cultural attributes through educational programs. One example is SRS's scout "Camporee" to teach thousands of girl and boy scouts about the environment. Many other regional and national universities work with the site on environmental, cultural and economic impacts – including many HBUCs (Historically Black Universities and Colleges).

So, no matter what you hear from SRS's detractors, SRS is environmentally safe - a productive, diverse set of ecosystems and programs that promote environmental stewardship. In fact, many have called SRS an "environmental island" as the attachment indicates.

SCD31

Finally, I would like to quote a short passage from the end of my three year report regarding new missions for SRS:

"As this study has detailed, weapons facilities can and should be used for environmental research, biodiversity, environmental technology demonstration, recreation, environmental education and resource management - and *still* produce nuclear materials.

Imagine a weapons site with an industrial core producing nuclear components...The central industrial core would be surrounded by environmental uses which were compatible with the industrial mission. In some cases the environmental uses would even complement the industrial mission. Examples of these uses would be experimentation with plants that passively remediate contaminated areas, bio-remediation technology demonstration, and materials recycling. The environmental uses would also *complement each other* and in some cases even be symbiotic (i.e., conducting recreation in a natural resource area or simultaneously undertaking research and public education). The environmental uses would draw in the public from surrounding communities, providing environmental and economic opportunities ..."

In conclusion, SRS is environmentally compatible with the Surplus Plutonium Disposition project. Additionally, it has the land use qualities which a professional planner looks for in such a project: a significant buffer, quality infrastructure, support facilities, little environmental impact, no social disruption, and room for expansion.

1

SCD31



My name is Phyllis Hendry and I am President of the National Science Center's Fort Discovery in Augusta, Georgia. As a citizen of this community, I am writing this letter to support the Savannah River Site (SRS) and its effort to obtain the third element of the DOE plutonium disposition mission - pit disassembly and conversion.

The Savannah River Site has a proven history in the handling of plutonium. Since SRS has been assigned as the Site of the Mixed Oxide Fuel Fabrication and immobilization missions, it only makes sense that the plutonium disposition mission, including pit disassembly and conversion, be located in the same place. The Pantex facility in Texas that is also being considered for the plutonium mission has never processed plutonium; therefore, there is no plutonium handling infrastructure in place. As a taxpayer, I understand that locating the plutonium mission at SRS can save taxpayers at least \$1.6 billion based on avoided costs of new structures and equipment that would be required at other DOE sites.

On a recent trip to Washington with the Metro Augusta and Aiken Chambers of Commerce and three other area Chambers, we visited with Frederico Pena and he indicated that community support would play a major part in the decision-making process. Several groups from our two-state area have met with the Secretary to express overwhelming support that the Savannah River Site has in this community. The Savannah River Site has a proven record that makes it the logical choice for the plutonium mission.

I appreciate the opportunity to support the Savannah River Site.

Sincerely,

Phyllis Henneey Hendry  
President  
NSC Discovery Center, Inc.



The National Science Center's  
Fort Discovery  
One Severn Street on the Riverbank  
Augusta, Georgia 30901  
Tel. 706.821 0200 or 800.325 8445  
Fax 706.821 0289  
www.nscdiscovery.org

SCD04

SCD04-1

Alternatives

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

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

August 13, 1998

Dear Mr. Nulton  
US Department of Energy  
Materials Disposition

It has been noted that the concern for severity and frequency of aircraft incidents decreases in the series of EIS documents published by DOE-MD compared to certain earlier studies including the PANTEX EIS. It is noteworthy that LANL studies on the same issue for DOE-DP and others are highly concerned with this issue and in particular with respect to Zone 12 and Zone 4. Zone 4 is where you plan to place the PDCF facility. Zone 12 or Zone 4 is not material since the entire PANTEX site is only 16,000 acres or roughly 5 by 5 miles.

In further support of this puzzling situation, the DNFSB in it's weekly reports has on several occasions highlighted the fact that even DOE and M&H do not fly radiological over-flights of these two zones for fear of the consequences of a helicopter crash. Now their concern is based upon the storage of metal pit parts and HE explosives. They have never had to consider the consequences of plutonium powder processing.

It is well known that the Amarillo area air facilities not only routinely service large commercial aviation aircraft - flights, storage depot, etc.; but, they also service a significant contingent of air force B-1s and tankers.

What has been the basis for your analysis? Does DOE intend to follow the US NRC protocol (NUREG - 0800)? The NUREG - 0800 protocol is the standard official US criteria for nuclear facilities and has been a cornerstone of nuclear regulation for years. If you have deviated from this protocol, please explain the rationale especially in light of the DOE thrust to become NRC regulated and to meet the same criteria.

I submit this letter to you with NUREG - 0800 attached to help in simplifying the process of future conformance to NRC regulations and in the hope of avoiding a major dispersal of PuO<sub>2</sub> over the landscape of a major food processing area of the US.

*B.R. Seward*  
Blake Seward  
Evans, Georgia

Attachment: NUREG-0800 (US Nuclear Regulatory Commission Standard Review Plan, Office of Nuclear Reactor Regulation.)

SCD02

SCD02-1

Facility Accidents

DOE acknowledges the commentor's concern regarding aircraft accidents. Decreases in aircraft crash frequency in this SPD EIS relative to other documents such as the *Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage with Nuclear Weapon Components* (DOE/EIS-0225, November 1996) are largely due to the smaller effective target area of the pit conversion and MOX facilities as compared with the entirety of Zone 4 or Zone 12. The possibility of plutonium powder processing is indeed new at Pantex, and this EIS addresses this concern in the accident analysis primarily in the higher fraction of material that becomes airborne as a result of the hypothesized accidents. The resulting potential impacts will be considered in the decisionmaking process.

SCD02-2

Facility Accidents

The primary basis for the accident analysis is *Recommendations for the Preparation of Environmental Assessments and Environmental Impact Statements* (DOE Office of NEPA Oversight, May 1993). The methodology is based on that outlined in *Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Safety Analysis Reports* (DOE-STD-3009-94, 1994). In accordance with that standard, radiological releases were analyzed in terms of the specific release phenomenology as documented in *Airborne Release Fractions/Rates and Respirable Fractions for Nonreactor Nuclear Facilities* (DOE-HDBK-3010-94, October 1994). *Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants* (NUREG-0800, July 1981), is not directly applicable to nonreactor facilities.

3-205

Comment Documents and Responses—Georgia



United States  
Department  
of Energy

Comment Form

NAME: (Optional) Cameron Sherer  
ADDRESS: 4634 Hardy McManus Rd., Evans, Ga, 30809  
TELEPHONE: (706) 863-9487  
E-MAIL: C.Sherer@peachnet.com

I appreciate DOE holding these meetings and willing to listen to the public, elected officials, and concerned citizens. I never was a member of the U.S. Armed Forces and I look back on this with regret. I feel a need to give something back to this nation that has given so much to me. As an employee at SRS for over 17 years I am proud of the fact that SRS was an important factor in the ending of the Cold war. The production of PU at SRS helped bring down the Iron Curtain. I ask DOE to bring all the PU disposition missions to SRS and let us finish what we started.

Thank you  
Cameron Sherer

SCD66

SCD66-1

Alternatives

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

Bill Thompson, President and CEO  
Sun Trust Bank, Augusta

As a member of the business community in this area, I would like to welcome our visitors from the Department of Energy Headquarters to SRS country.

We are extremely proud of SRS, its contribution to our National Security, its history of unmatched safety and production performance, and the many employees who have worked there and those who work there today. This pride and support extends throughout this area and joins our two states in common interest and objectives.

The Plutonium Disposition Program is important to our Nation and to the world. DOE should be commended for its leadership and progress on this program. SRS and this community support this program and stands ready to accept full responsibility for its successful completion. We are proud that SRS has been selected as the preferred site for the Mixed Oxide Fuel and Immobilization missions of this program. We now focus our attention to the third mission of the program, Plutonium Pit Disassembly and Conversion.

Many of us do not understand the finite technical details of plutonium and other nuclear materials. But, we do understand concepts of infrastructure, experience, expertise, and demonstrated performance in safety and environmental protection. We also understand that to duplicate at Pantex what already exists to support this mission at SRS will cost hundreds of millions of dollars. This unto itself is enough to declare that SRS is preferred over Pantex.

As a taxpayer, it makes clear sense to me to consolidate all of the missions for Plutonium Disposition at SRS. I encourage DOE not to overlook the hundreds of millions of dollars in savings which would be realized through this consolidation. I encourage DOE to go back and review this draft EIS to correct the many cost and logic errors which appear to have been generated in an attempt to level the field between SRS and Pantex. The errors are many and too numerous to delineate here, but once corrected, it will be clear that SRS is the preferred site for Pit Disassembly and Conversion.

Consolidation at SRS is the right thing to do for our Nation, this community and the taxpayers.

Thanks you for this opportunity to provide comments on this extremely important program.

SCD20

## SCD20-1

## Alternatives

DOE acknowledges the commentator's support for siting the proposed surplus plutonium disposition facilities at SRS. Further, DOE appreciates the support it has received from the local communities surrounding the candidate sites for the proposed facilities. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure.

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

711 Pevero Abbey Circle  
Martinez, GA 30907  
E-Mail: RBTHWILCOC@aol.com  
September 11, 1998

U.S. Department of Energy  
Office of Fissile Materials Disposition  
P.O. Box 23786  
Washington, DC20026-3786

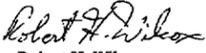
This is in reply to your request for comments on the "Surplus Plutonium Disposition Draft Environmental Impact Statement," dated July 1998.

I have reviewed this document and essentially have no comments, other than to rephrase and reiterate some which I provided before the document was prepared, in my letter to Mr. Bert Stevenson on July 6, 1997:

- 1. The EIS process, as currently practiced by DOE, remains unduly expensive and time consuming. In my opinion, it goes far beyond the intent of Congress when it enacted the original NEPA. | 1
- 2. DOE's decision in this matter should be driven primarily by considerations of national security. | 2
- 3. DOE and others should most carefully consider the extent to which it would be prudent to concentrate a high percentage of the nation's plutonium at any one site. | 3
- 4. The conversion of as much as possible of the unneeded plutonium into MOX fuel remains the logical and responsible course of action for the Government to take and the sooner the better. | 4
- 5. The SRS should be utilized to the maximum that it makes strategic and economic sense to do so. | 5

I urge DOE to get on with this important job as expeditiously as possible.

Sincerely,

  
Robert H. Wilcox

MD176

**MD176-1**

**General SPD EIS and NEPA Process**

DOE strives to control costs in implementing the NEPA process. This SPD EIS was prepared in accordance with the provisions of NEPA (42 U.S.C. 4321 et seq.) and related CEQ and DOE implementation regulations (40 CFR 1500 through 1508 and 10 CFR 1021, respectively).

**MD176-2**

**DOE Policy**

The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of the surplus plutonium in the United States in an environmentally safe and timely manner. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

**MD176-3**

**DOE Policy**

DOE acknowledges the commentator's concern that a high percentage of the nation's plutonium might be concentrated at any one site. As summarized in the *Storage and Disposition PEIS* ROD, the nonproliferation assessment concluded that each of the options under consideration for plutonium disposition could potentially provide high levels of security and safeguards and effective international monitoring for nuclear materials during the disposition process thus mitigating the risk of theft. Accordingly, the proposed DOE surplus plutonium disposition facilities are all at locations where plutonium would have the levels of protection and control required by applicable DOE safeguards and security directives. Safeguards and security programs would be integrated programs of physical protection, information security, nuclear material control and accountability, and personnel assurance. Security for the proposed facilities would be implemented commensurate with the usability of the material in a nuclear weapon or improvised nuclear device. Physical barriers; access control systems; detection and alarm systems; procedures, including the two-person rule (which requires at least two people to be present when working with special nuclear materials in the facility); and personnel security measures, including security clearance

investigations and access authorization levels, would be used to ensure that special nuclear materials stored and processed inside are adequately protected. Closed-circuit television, intrusion detection, motion detection, and other automated materials monitoring methods would also be employed. Furthermore, the physical protection, safeguards, and security for the MOX facility and domestic, commercial reactors would be in compliance with NRC regulations.

**MD176-4** **MOX Approach**

DOE acknowledges the commentor's support for the MOX approach.

The remainder of this comment is addressed in response MD176-2.

**MD176-5** **Alternatives**

DOE acknowledges the commentor's support for the surplus plutonium disposition program at SRS.

The remainder of this comment is addressed in response MD176-2.

TALKING POINTS FOR PUBLIC HEARING ON MOX DRAFT ENVIRONMENTAL  
IMPACT STATEMENT—08/20/98

1. Disposing of plutonium no longer needed for nuclear weapons is vital to our national policy.

As the world leader, the U. S. must do this disposal rapidly and effectively.

The Russian must do the same. Such actions will send a clear message to India, Pakistan, and others that want the bomb. These nations will see that both Russia and the U. S. are serious about nuclear disarmament.

2. Using this plutonium in mixed oxide (MOX) fuel for nuclear power reactors makes it quite difficult to recover for use in nuclear bombs.

Most plutonium should be turned into MOX. Some plutonium is too impure for either bombs or MOX. Only such impure plutonium should be put into glass and buried directly.

3. We are unhappy that DOE has already chosen Savannah River as the preferred site for MOX production. DOE could have delayed the decision until the Record of Decision following the Final Environmental Impact Statement.

By then WIPP might be open. Waste from Rocky Flats—not of our making—would finally be moving out of Idaho after three decades of promises. Our political leaders could then show that the Settlement Agreement on Nuclear Wastes is working. They could then support new projects, such as MOX, in good faith.

4. Even though MOX will not come to Idaho, DOE must show without doubt that the impacts of MOX on the INEEL environment would be minor. In this EIS DOE must answer all concerns of those who give independent oversight (State of Idaho) and stakeholder advice (Citizens Advisory Board). Failure to do so will make it harder for the State and the public to accept the next nuclear project at INEEL.

5. From this EIS, DOE will pick the site that will make the prototype fuel (termed lead assemblies) and will examine it after nuclear testing. The private company chosen for the MOX project will help decide whether it needs this Research and Development step. We support Argonne-West for this work. It has better facilities and better technical talent than the other sites DOE is considering.

IDD05

IDD05-1

Nonproliferation

DOE acknowledges the commentator's views on the need to disposition surplus plutonium in the United States and in Russia. The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. The disposition activities proposed in this SPD EIS would enhance U.S. credibility and flexibility in negotiations on bilateral and multilateral reductions of surplus weapons-usable fissile materials inventories. Actions undertaken by the United States would generally be coordinated with efforts to address surplus plutonium stockpiles in Russia. For example, the construction of new facilities for disposition of U.S. plutonium would likely depend on progress in Russia.

IDD05-2

Alternatives

DOE has identified as its preferred alternative the hybrid approach: to disposition up to 50 t (55 tons) of surplus plutonium that uses both ceramic can-in-canister immobilization and MOX fuel fabrication. Approximately 33 t (36 tons) of clean plutonium metal and oxides would be used to fabricate MOX fuel, which would be irradiated in domestic, commercial reactors. The remaining 17 t (19 tons) of impure plutonium would be sent to the immobilization facility, thus avoiding extensive characterization and purification of the materials. Both of these approaches would meet the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors.

IDD05-3

DOE Policy

DOE has prepared this SPD EIS in accordance with the provisions of NEPA (42 U.S.C. 4321 et seq.) and the related CEQ and DOE implementation regulations (40 CFR 1500 through 1508 and 10 CFR 1021, respectively). In accordance with CEQ Section 1502.14(e), DOE identified its preferred alternative in the SPD Draft EIS so the public could understand DOE's orientation and provide comment. Decisions on the surplus plutonium disposition program at INEEL will be based on public input, environmental



**IF NOT NOW...**

140 ARBORWAY, STE. 6, BOSTON, MA 02130-3522 USA  
(617) 524-1342 • fax (617) 524-1347 • contact@ifnotnow.com

To: DOE, Fax 18008205156  
From: If Not Now: A Citizens Lobbying Tool, EMail rep-info@ifnotnow.com  
Date: Sep 10, 1998 13:44 GMT  
Subject: Plutonium Disposal By Burning In Nuclear Reactors

If Not Now is a web-based citizen's lobbying tool. We are forwarding to you a letter from some of your constituents. At the end of this message there is a description of how our service works and how you can respond to your constituents.

Signatures as of Sep 10, 1998:  
There were 2 new signers. Total signers to date: 2.

TOPIC: Plutonium Disposal By Burning In Nuclear Reactors

Dear DOE (Fissile Materials Program),

I am writing to oppose the current Department of Energy plan for plutonium disposition, which is based on mixed-oxide (MOX) fuel. MOX fuel is a bad idea. It is unproven technology as far as commercial reactors in the U.S. are concerned. MOX techniques for plutonium disposal are also slower and more expensive than immobilization techniques. In addition, the treatment of plutonium as an energy source sets a dangerous precedent for nuclear proliferation and the development of plutonium fuel economies. It is essential that the DOE do everything possible to discourage this proliferation.

New signers and comments:

Scott Bonner, Boise, ID 83702  
Amy Hobbs, Springfield, MO 65806

DESCRIPTION OF IF NOT NOW SERVICE

Subscribers use If Not Now ([www.ifnotnow.com](http://www.ifnotnow.com)) to get information about political and social issues of concern to them. The service also enables them to sign letters about these topics, which we then forward in consolidated form to officials such as yourself. It is important to emphasize that our subscriber list is authenticated through credit card verification, and only those signers who belong to your specific constituency are included in the signature list that you receive.

FD300

FD300-1

MOX Approach

DOE acknowledges the commentator's opposition to the MOX approach to surplus plutonium disposition. While it is true MOX fuel has not been produced commercially in the U.S., it has been produced in Western Europe. MOX fuel fabrication is not a new technology. This experience would be used for disposition of the U.S. surplus plutonium. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

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

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140 ARBORWAY, STE. 6, BOSTON, MA 02130-3522 USA  
(617) 524-1342 • fax (617) 524-1347 • [contact@ifnotnow.com](mailto:contact@ifnotnow.com)

An important feature of If Not Now is that we follow up on every action letter that we send, and we report how representatives, officials and others have acted on the issue. We also provide you with the opportunity to respond to your constituents (via a password-protected web server, to ensure that only legitimate responses are posted). Follow the directions below. Your letter will be posted without editing; your constituents will be able to view your response when they check the results of that action. (We regret that we cannot process responses received via fax or US mail.) We strongly encourage you to send us a response! Our subscribers are active, involved citizens who want to hear from you.

To respond to an action letter: fill out the form at <http://www.ifnotnow.com/respond.html> -- you will need to use your special key: PeeTJlWV. This key is valid for one-time use only. Please send questions or comments via email to: [rep-info@ifnotnow.com](mailto:rep-info@ifnotnow.com).

FD300

BRADY'S

C.A. Brady II  
brady@brv.net  
1930 N. Woodruff Ave.  
Idaho Falls, Idaho 83401  
www.bradybunch.com

Telephone (208) 522-4763  
Fax (208) 522-4767

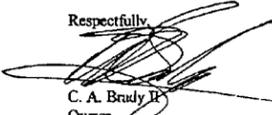
August 17, 1998

We must find a way to dispose of the plutonium no longer needed for nuclear weapons. The U.S. must take a leadership position in accomplishing this goal. The best use for this plutonium is to use it in mixed oxide fuel (MOX) for nuclear power reactors. This would also make it more difficult to recover for use in nuclear bombs.

Even though the decision to place this project in Savannah River has virtually been made and the I.N.E.E.L. was not given a fair opportunity because of political reasons to bid effectively for the MOX programs, I support the MOX project. If the waste from Rocky Flats was moving out of Idaho as promised over the last thirty years, our political leaders here in Idaho could support new projects such as MOX.

Though MOX won't be coming to Idaho, DOE must still show that MOX would have little environmental impact in Idaho, otherwise the next nuclear project would run into problems being placed at the I.N.E.E.L. The DOE, I hope, will pick Argonne-West to make the prototype fuel. Argonne-West has the best facilities and talent to do this job.

Respectfully,



C. A. Brady II  
Owner

sds/plutonium.wps

IDD03

IDD03-1

Alternatives

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