

TALKING POINTS FOR PUBLIC HEARING ON MOX DRAFT ENVIRONMENTAL
IMPACT STATEMENT—08/20/98

1. Disposing of plutonium no longer needed for nuclear weapons is vital to our national policy.

As the world leader, the U. S. must do this disposal rapidly and effectively.

The Russian must do the same. Such actions will send a clear message to India, Pakistan, and others that want the bomb. These nations will see that both Russia and the U. S. are serious about nuclear disarmament.

2. Using this plutonium in mixed oxide (MOX) fuel for nuclear power reactors makes it quite difficult to recover for use in nuclear bombs.

Most plutonium should be turned into MOX. Some plutonium is too impure for either bombs or MOX. Only such impure plutonium should be put into glass and buried directly.

3. We are unhappy that DOE has already chosen Savannah River as the preferred site for MOX production. DOE could have delayed the decision until the Record of Decision following the Final Environmental Impact Statement.

By then WIPP might be open. Waste from Rocky Flats—not of our making---would finally be moving out of Idaho after three decades of promises. Our political leaders could then show that the Settlement Agreement on Nuclear Wastes is working. They could then support new projects, such as MOX, in good faith.

4. Even though MOX will not come to Idaho, DOE must show without doubt that the impacts of MOX on the INEEL environment would be minor. In this EIS DOE must answer all concerns of those who give independent oversight (State of Idaho) and stakeholder advice (Citizens Advisory Board). Failure to do so will make it harder for the State and the public to accept the next nuclear project at INEEL.

5. From this EIS, DOE will pick the site that will make the prototype fuel (termed lead assemblies) and will examine it after nuclear testing. The private company chosen for the MOX project will help decide whether it needs this Research and Development step. We support Argonne-West for this work. It has better facilities and better technical talent than the other sites DOE is considering.

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IDD05

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Nonproliferation

DOE acknowledges the commentor's views on the need to disposition surplus plutonium in the United States and in Russia. The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. The disposition activities proposed in this SPD EIS would enhance U.S. credibility and flexibility in negotiations on bilateral and multilateral reductions of surplus weapons-usable fissile materials inventories. Actions undertaken by the United States would generally be coordinated with efforts to address surplus plutonium stockpiles in Russia. For example, the construction of new facilities for disposition of U.S. plutonium would likely depend on progress in Russia.

IDD05-2

Alternatives

DOE has identified as its preferred alternative the hybrid approach: to disposition up to 50 t (55 tons) of surplus plutonium that uses both ceramic can-in-canister immobilization and MOX fuel fabrication. Approximately 33 t (36 tons) of clean plutonium metal and oxides would be used to fabricate MOX fuel, which would be irradiated in domestic, commercial reactors. The remaining 17 t (19 tons) of impure plutonium would be sent to the immobilization facility, thus avoiding extensive characterization and purification of the materials. Both of these approaches would meet the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors.

IDD05-3

DOE Policy

DOE has prepared this SPD EIS in accordance with the provisions of NEPA (42 U.S.C. 4321 et seq.) and the related CEQ and DOE implementation regulations (40 CFR 1500 through 1508 and 10 CFR 1021, respectively). In accordance with CEQ Section 1502.14(e), DOE identified its preferred alternative in the SPD Draft EIS so the public could understand DOE's orientation and provide comment. Decisions on the surplus plutonium disposition program at INEEL will be based on public input, environmental

analyses, technical and cost reports, and national policy and nonproliferation considerations. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

IDD05-4 General SPD EIS and NEPA Process

The analyses in Sections 4.14 and 4.26.2 indicate that impacts of constructing and operating the MOX facility at INEEL on public health and the environment would likely be minor. This Comment Response Document contains the comments of interested stakeholders and DOE's responses to those comments.

IDD05-5 Lead Assemblies

DOE acknowledges the commentor's support for siting lead assembly and postirradiation examination activities at ANL-W. As discussed in Section 2.17, ANL-W was considered as one of several candidate sites because it would require only minimal alteration of interior spaces, is authorized to handle plutonium, and has existing facilities that meet the standards for processing special nuclear material.

As discussed in the revised Section 1.6, based on consideration of capabilities of the candidate sites and input from DCS on the MOX approach, DOE prefers LANL for lead assembly fabrication. LANL is preferred because it already has fuel fabrication facilities that would not require major modifications, and takes advantage of existing infrastructure and staff expertise. Additionally, the surplus plutonium dioxide that would be used to fabricate the lead assemblies would already be in inventory at the site. Decisions on lead assembly fabrication will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

IF NOT NOW...

140 ARBORWAY, STE. 6, BOSTON, MA 02130-3522 USA
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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

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FD300

FD300-1

MOX Approach

DOE acknowledges the commentor's opposition to the MOX approach to surplus plutonium disposition. While it is true MOX fuel has not been produced commercially in the U.S., it has been produced in Western Europe. MOX fuel fabrication is not a new technology. This experience would be used for disposition of the U.S. surplus plutonium. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

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



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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: PeeTJiwV. This key is valid for one-time use only. Please send questions or comments via email to: rep-info@ifnotnow.com.

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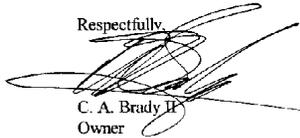
August 17, 1998

We must find a way to dispose of the plutonium no longer needed for nuclear weapons. The U.S. must take a leadership position in accomplishing this goal. The best use for this plutonium is to use it in mixed oxide fuel (MOX) for nuclear power reactors. This would also make it more difficult to recover for use in nuclear bombs.

Even though the decision to place this project in Savannah River has virtually been made and the I.N.E.E.L. was not given a fair opportunity because of political reasons to bid effectively for the MOX programs, I support the MOX project. If the waste from Rocky Flats was moving out of Idaho as promised over the last thirty years, our political leaders here in Idaho could support new projects such as MOX.

Though MOX won't be coming to Idaho, DOE must still show that MOX would have little environmental impact in Idaho, otherwise the next nuclear project would run into problems being placed at the I.N.E.E.L. The DOE, I hope, will pick Argonne-West to make the prototype fuel. Argonne-West has the best facilities and talent to do this job.

Respectfully,



C. A. Brady II
Owner

sds/plutonium.wps

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IDD03

IDD03-1

Alternatives

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



Citizens Advisory Board

Idaho National Engineering and Environmental Laboratory

98-CAB-206

September 16, 1998

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

Dear Sirs:

Enclosed you will find a copy of a recommendation developed by the Idaho National Engineering and Environmental Laboratory Citizens Advisory Board (INEEL CAB). The recommendation was achieved through consensus at the September 1998 meeting of the CAB. It transmits the Board's comments and recommendations to the U.S. Department of Energy on the Draft Environmental Impact Statement (EIS) for Surplus Plutonium Disposition.

It is our intention that our comments and recommendations will help DOE produce a Final EIS that is sufficiently improved to withstand legal challenge and to support the Secretary of Energy's selection of the most appropriate path forward for this important mission of nonproliferation.

We look forward to DOE's response to all of the comments received on the Draft EIS during this comment period. In addition, we would like to receive a copy of the Final EIS along with all supporting documentation (including the *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* document).

Sincerely,

Charles M. Rice
Chair

- cc: James Owendoff, DOE-HQ
- Martha Crossland, DOE-HQ (EM-22)
- Larry Craig, U.S. Senate
- Dirk Kempthorne, U.S. Senate
- Mike Crapo, U.S. House of Representatives
- David Holt, Chair, Idaho Senate Resources and Environment Committee
- Gordon H. Smith, Chair, Idaho House of Representatives Resources and Conservation Committee
- Dolores Crow, Chair, Idaho House of Representatives Environmental Affairs Committee
- Stan Hobson, Chair, INEEL CAB Plutonium Committee
- Johan Wileyanski, DOE-ID
- Gerald Bowman, DOE-ID
- Kathleen Trever, State of Idaho INEEL Oversight
- Wayne Pierre, U.S. Environmental Protection Agency, Region X



Citizens Advisory Board
Idaho National Engineering and Environmental Laboratory

Surplus Plutonium Disposition Draft Environmental Impact Statement

The Idaho National Engineering and Environmental Laboratory (INEEL) Citizens Advisory Board (CAB) reviewed the U.S. Department of Energy (DOE)'s Surplus Plutonium Disposition Draft Environmental Impact Statement (EIS), although it was difficult to obtain copies to support our review. We regret that the INEEL CAB was not on the distribution list for the document—despite the fact that we submitted a recommendation addressing the ongoing EIS in the fall of 1997. Our request for copies of the Draft EIS (sent via the DOE's National Environmental Policy Act Internet homepage) similarly did not affect a response.

We submit the following recommendations and comments to support DOE's efforts to develop legally defensible environmental documentation for decision making related to the nonproliferation mission. **We recommend that the Department respond to all comments on the Draft EIS received during this comment period in order to ensure that the Final EIS will be able to support a decision by the Secretary of Energy on this important mission.**

GENERAL COMMENTS

The INEEL CAB notes that Chapter One of the Surplus Plutonium Disposition Draft EIS includes the following quotation:

"The Record of Decision for the *Storage and Disposition Programmatic Environmental Impact Statement* (PEIS) issued January 14, 1997 outlines DOE's decision to pursue an approach to plutonium disposition that would make surplus weapons-usable plutonium inaccessible and unattractive for weapons use. DOE's disposition strategy, consistent with the preferred alternative analyzed in the *Storage and Disposition* PEIS, allows for both the immobilization of some (and potentially all) of the surplus plutonium and use of some of the surplus plutonium as mixed oxide (MOX) fuel in existing domestic, commercial reactors."

The statement suggests that DOE believes that both approaches would render surplus plutonium (weapons-usable plutonium that has been deemed surplus) inaccessible and unattractive for weapons use, thereby achieving DOE's objectives.

Our analysis of the information presented in the Draft EIS leads us to a conclusion that DOE conducted a less-than-rigorous analysis of the full immobilization alternatives. We note that DOE conducted more extensive analysis for all of the hybrid alternatives (those that would involve implementation of both approaches). This leaves the reader with an impression that DOE decided to pursue the MOX disposition option without the benefit of adequate analysis.

FD318-1

General SPD EIS and NEPA Process

DOE regrets the difficulties encountered by the INEEL CAB in obtaining copies of the SPD Draft EIS. Copies of the document or an NOA letter were sent to each member of the Board at that person's address on record. This approach was adopted in favor of a bulk mailing directly to the Board's address, which would probably have delayed the receipt of copies by the individual members. (Presumably, someone would have had to forward the documents by mail or wait until the next Board meeting to distribute them.) The public comment period on the SPD Draft EIS was extended from 45 days to 60 days. During this comment period, public hearings were held in areas that would be directly affected by implementation of the alternatives. DOE also accepted comments submitted by various other means: mail, a toll-free telephone and fax line, and the MD Web site. The various channels of communication were open to all interested individuals and organizations, and provided for regional and nationwide comment on the EIS. DOE did consider all comments received after the close of that period. All comments were given equal consideration and responded to.

FD318-2

Alternatives

DOE has prepared this SPD EIS in accordance with the provisions of NEPA (42 U.S.C. 4321 et seq.) and the related CEQ and DOE implementation regulations (40 CFR 1500 through 1508 and 10 CFR 1021, respectively). The primary objective of the EIS is a comprehensive description of proposed surplus plutonium disposition actions and alternatives and their potential environmental impacts. DOE has analyzed each environmental resource area in a consistent manner across all the alternatives to allow for a fair comparison among the alternatives and among the candidate sites for the proposed surplus plutonium disposition facilities. As discussed in Section 2.1, the disposition facility alternatives, immobilization technology alternatives, and MOX fuel fabrication alternatives evaluated are consistent with the decisions given in the ROD for the *Storage and Disposition PEIS*. Impacts for both technologies and all alternatives are summarized in Chapter 4 of Volume I, and complete analyses are provided in the appendixes. Alternatives 11 and 12, the 50-t (55-tons) immobilization cases, are fully analyzed.

DOE has identified as its preferred alternative the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again. Because the Russians have expressed concern that immobilization would not destroy any plutonium, it is conceivable that the Russians would not disposition their surplus plutonium stockpile if the United States were to implement an immobilization-only approach.

Similarly, the INEEL CAB notes that the description of the alternatives is unclear regarding how immobilization would achieve the standards set the National Academy of Sciences. It has not been demonstrated, for example, that high-level waste can be used in the can and canister immobilization method to achieve a radiation barrier. **The INEEL CAB recommends that the total immobilization options be given full consideration and rigorous discussion in this EIS.** Such an analysis will make the Final EIS less vulnerable to legal challenge and allow the Secretary of Energy greater leeway in selecting the most appropriate path forward for the disposition of surplus plutonium.

The members of the INEEL CAB are divided on whether national and/or international interests would be better served by selection of the total immobilization or the hybrid approach, partly because we lack confidence in the adequacy of the analysis. Improved analysis may reveal that the hybrid approaches will result in greater impacts on the environment, human health, and security. The hybrid alternative could also take a much longer period of time, require more transportation of radioactive materials, and produce greater quantities of wastes. We note that some of the alternatives propose using a 1954 facility for plutonium conversion and immobilization, which could involve permitting challenges that are not adequately addressed in the EIS.

Because our review of the Draft EIS left us without answers to questions about the true impacts of the various alternatives, we concluded that the Draft EIS does not allow comparison of the two approaches, much less comparison of the full range of alternatives. **The INEEL CAB recommends that the Final EIS resolve these major issues by conducting additional analysis.**

The Draft EIS and presentations by DOE related to the document imply that the international community will not be satisfied with U.S. nonproliferation efforts in the absence of MOX. **In light of the fluid political situation in Russia, the INEEL CAB recommends that the assumptions (that the U.S. has no choice but to pursue the MOX alternative in order to ensure that Russia will take reciprocal action) should be periodically confirmed. The INEEL CAB further recommends that implementation of U.S. actions, regardless of which alternative is selected, should proceed concurrently with implementation of comparable actions in Russia.**

While the entire INEEL CAB wholeheartedly supports DOE's efforts to achieve nonproliferation objectives and would not argue in favor of a decision that would jeopardize Russian cooperation, the INEEL CAB recommends that DOE base its decisions on complete information and sound analysis. In the spirit of the National Environmental Policy Act, this EIS must document the decision in a publicly defensible manner.

**COMMENTS ON THE COST ANALYSIS IN SUPPORT OF SITE SELECTION
FOR SURPLUS WEAPONS-USABLE PLUTONIUM DISPOSITION DOCUMENT**

The INEEL CAB regrets that the cost analysis of the various alternatives presented in the Draft EIS was provided in a separate document that was relatively unavailable. The absence of cost information in the Draft EIS itself leaves the reader to a conclusion that either (1) the costs of implementing the alternatives do not differ or (2) DOE will not consider costs in selecting from the various alternatives. Neither conclusion seems realistic or appropriate. **The INEEL CAB recommends the inclusion of more information about costs in the body of the Final EIS.**

FD318-3

DOE Policy

In the *Nonproliferation and Arms Control Assessment Weapons-Usable Fissile Material Storage and Excess Plutonium Disposition Alternatives* (DOE/NN-0007, January 1997), DOE identified two potential liabilities of the immobilization alternatives relative to the Spent Fuel Standard. These liabilities involve ensuring sufficient radiation levels and removal-resistant can-in-canister designs. Since that time, DOE has modified the can support structure inside the canisters and has focused its research on the ceramic form of immobilization. As part of the form evaluation process, an independent panel of experts determined (*Letter Report of the Immobilization Technology Peer Review Panel*, from Matthew Bunn to Stephen Cochran, LLNL, August 21, 1997) that the can-in-canister design would meet the Spent Fuel Standard. In addition, NAS is currently conducting studies to confirm the ability of the ceramic can-in-canister immobilization approach to meet the Spent Fuel Standard. DOE is confident that immobilization remains a viable alternative for meeting the nonproliferation goals of the surplus plutonium disposition program.

FD318-4

Alternatives

This SPD EIS identifies and analyzes potential environmental and human health impacts that might result from the construction and normal operation of proposed surplus plutonium disposition facilities. The hybrid approach would produce some additional potential impacts, as described in Chapter 4 of Volume I.

DOE acknowledges the commentor's concern about the preferred approach of using both immobilization and MOX fuel fabrication to disposition surplus plutonium.

DOE eliminated as unreasonable the eight alternatives in the SPD Draft EIS that would involve use of portions of Building 221-F (the 1954 building referred to in the comment) for plutonium conversion and immobilization. It was determined that the amount of space required for the immobilization facility would be significantly larger than originally planned. These new space requirements mean that the Building 221-F alternatives would now be very close in size and environmental impacts to the new immobilization facility

alternatives at SRS. Therefore, this SPD EIS only presents the alternatives involving a completely new immobilization facility at SRS.

FD318-5**Nonproliferation**

DOE agrees with the commentor's recommendation and has maintained a close working relationship with Russia to develop technical solutions for plutonium disposition. The United States and Russia recently made progress in the management and disposition of plutonium. In late July 1998, Vice President Gore and Russian Prime Minister Sergei Kiriyenko signed a 5-year agreement to provide the scientific and technical basis for decisions concerning how surplus plutonium will be managed. This agreement enables the two countries to explore mutually acceptable strategies for safeguarding and dispositioning surplus plutonium. During the first week of September 1998, Presidents Clinton and Yeltsin held a Moscow summit and signed a statement of principles with the intention of removing approximately 50 t (55 tons) of plutonium from each country's stockpile. Sensitive negotiations between the two countries have indicated that the Russian government accepts the technology of immobilization for low-concentration, plutonium-bearing materials, but that the MOX approach would be considered for higher-purity feed materials. The United States does not currently plan to implement a unilateral program; however, it will retain the option to begin certain surplus plutonium disposition activities in order to encourage the Russians and set an international example.

FD318-6**Cost**

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

locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

CITIZENS ADVISORY BOARD, INEEL
CHARLES M. RICE
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Review of the cost analysis document allows an improved understanding of the costs associated with implementation of the surplus plutonium disposition decision. The INEEL CAB believes the cost analysis is based on a questionable methodology, as it appears that the costs were not fully evaluated. We question why the estimates of total costs do not appear to include certain categories of costs (nuclear reactor modifications and irradiation services, for example) based on an assumption that they will apply uniformly across all alternatives. It is hard to believe that nuclear reactor modifications will be required under the full immobilization alternatives, however. Calculation of fuel offsets and inclusion of those offsets in the estimates of total costs is questionable and the definition of those offsets is not clear, which further complicates the reader's ability to understand the analysis of costs for the various alternatives.

Similarly, we have concerns about the adequacy of cost estimates for immobilization as they are based on less thorough process design and experience than the MOX option. We also noted that they do not include cost estimates for several undetermined aspects of the plutonium ceramic fabrication process. Potentially significant costs that would be required to ensure that the glass product can meet the National Academy of Sciences "spent fuel standard" for making weapons plutonium "sufficiently unattractive to proliferation." Finally, recent developments at the Savannah River Site indicate that it could be significantly more expensive to meet nonproliferation standards using the immobilization approach than with one of the hybrid approaches.

The INEEL CAB recommends that the cost analysis include calculation of all expected costs associated with each of the alternatives—including appropriate offsets (those that result in real reductions in the costs to the U.S. government). The INEEL CAB further recommends an independent review of the cost estimates by competent cost analysts following the suggested recalculation. Improved cost estimates are imperative to support selection of the most appropriate alternative for inclusion in the Record of Decision following completion of the Final EIS.

**COMMENTS REGARDING THE SITING OF THE LEAD TEST ASSEMBLY
 FABRICATION AND POST-IRRADIATION EXAMINATION PHASES**

If DOE decides to pursue a hybrid approach, review of the analysis of the candidate sites for the lead test assembly phase reveals that Argonne National Laboratory - West (ANL-W) is well qualified. We noted that ANL-W was the only site that did not fall short in at least one of the site selection criteria considered.

With regard to the post-irradiation examination of the lead test assemblies, the INEEL CAB believes that ANL-W is uniquely qualified for conducting the needed examinations. The Hot Fuel Examination Facility has successfully completed similar missions and has appropriate facilities to handle all aspects of the work.

The INEEL CAB recognizes that fabrication of lead test assemblies will involve transportation of plutonium to the INEEL and fabricated fuel rods to the commercial power plant where irradiation will occur. In addition, we recognize that the post-irradiation evaluation phase will involve shipment of irradiated fuel rods to and from the site. The shipments to and from ANL-W, if the facility is selected to conduct either phase, will likely cross the Fort Hall Indian Reservation.

RECOMMENDATION # 46

SEPTEMBER 15, 1998

FD318

FD318-7

Cost Report

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

FD318-8

Lead Assemblies

DOE acknowledges the commentor's support for siting lead assembly and postirradiation examination activities at ANL-W. As discussed in Section 2.17, ANL-W was considered as one of several candidate sites because it would require only minimal alteration of interior spaces, is authorized to handle plutonium, and has existing facilities that meet the standards for processing special nuclear material.

As discussed in the revised Section 1.6, based on consideration of capabilities of the candidate sites and input from DCS on the MOX approach, DOE prefers LANL for lead assembly fabrication. LANL is preferred because it already has fuel fabrication facilities that would not require major modifications, and takes advantage of existing infrastructure and staff expertise. Additionally, the surplus plutonium dioxide that would be used to fabricate the lead assemblies would already be in inventory at the site. DOE prefers ORNL for postirradiation examination activities. ORNL has the existing facilities and staff expertise needed to perform postirradiation examination as a matter of its routine activities; no major modifications to facilities or processing capabilities would be required. In addition, ORNL is about 500 km (300 mi) from the reactor site that would irradiate the fuel. Decisions on lead assembly fabrication and postirradiation examination will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

FD318-9

DOE Policy

It is DOE's policy that plutonium shipments comply with DOT and NRC regulatory requirements. The highway routing for commercial shipments of nuclear material is systematically determined using primarily interstate highways and shipments in accordance with appropriate DOT regulations at 49 CFR 171 through 179 and 49 CFR 397. The dates and times that specific transportation routes would be used for special nuclear materials are classified information; however, the number of shipments that would be required, by location, has been included in this SPD EIS.

It is possible that shipments to INEEL or ANL-W could cross the Fort Hall Reservation. The Fort Hall Reservation was contacted by DOE to discuss this issue during October 1998 and in March 1999 but no response has been received to date.

CITIZENS ADVISORY BOARD, INEEL
CHARLES M. RICE
PAGE 9 OF 11

The INEEL CAB recommends that DOE-ID develop an agreement with the Shoshone-Bannock Tribes to allow and appropriately manage the transport of plutonium and other radioactive materials across the reservation. We further recommend that such an agreement be achieved before decisions are made on the siting of the lead test assembly fabrication and the post-irradiation evaluation phases.

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With regard to the potential siting of both the lead test assembly and the post-irradiation examination phases at ANL-W, the INEEL CAB makes the following recommendations to help ensure that neither will jeopardize compliance with the Idaho Settlement Agreement:

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1. The INEEL CAB understands that the plutonium involved in both of the phases can meet residence limitations imposed by the Settlement Agreement. We recommend that DOE confirm that interpretation with Governor Batt's office.

2. The INEEL CAB recommends that the timing and quantities of plutonium shipments to and from ANL-W for the lead test assembly fabrication and the post-irradiation examination phases should be clearly defined in the final EIS.

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3. The Board recommends that disposition plans should be in place for all waste streams from all activities before the Record of Decision is signed to ensure that the decision will be consistent with the Idaho Settlement Agreement. The Draft EIS reports that the fabrication of lead test assemblies would produce 132 cubic meters of transuranic waste, 736 cubic meters of low-level waste, and 4 cubic meters of mixed low-level waste. No estimates of waste streams produced were included for the post-irradiation examination mission; the final EIS should specify that information. In addition, the INEEL CAB recommends that DOE provide a clear exit path and timetable for all waste streams, as well as residual plutonium, before it enters Idaho if ANL-W is selected for either phase.

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4. With regard to the disposal of the lead test assemblies after the post-irradiation examination has been completed, how will the irradiated and archived fuel rods be managed and disposed? Will the INEEL be expected to store the rods until Yucca Mountain opens? What will happen if Yucca Mountain doesn't open? The Board recommends that the Final EIS answer these questions.

14

FD318-10**Transportation**

After DOE selects an alternative, a transportation plan (in which State, tribal, and local officials in addition to DOE, the carrier, and other Federal agencies would be involved) would be prepared to address the details of implementing the actions analyzed in this SPD EIS, including prenotification of States. The shipment of nuclear material (e.g., depleted uranium) using commercial carriers would be the subject of detailed transportation plans in which routes and specific processing locations would be discussed. These plans are coordinated with State, tribal, and local officials. The shipment of waste would be in accordance with the decisions reached on the *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste (WM PEIS)* (DOE/EIS-0200-F, May 1997) and the *WIPP Disposal Phase Final Supplemental EIS* (DOE/EIS-0026-S-2, September 1997). The transportation of special nuclear materials is the subject of detailed planning with DOE's Transportation Safeguards Division. The dates and times that specific transportation routes would be used for special nuclear materials are classified information; however, the number of shipments that would be required, by location, has been included in this SPD EIS. Additional details are provided in *Fissile Materials Disposition Program SST/SGT Transportation Estimation* (SAND98-8244, June 1998), which is available on the MD Web site at <http://www.doe-md.com>. Until the decision to use INEEL for any of the surplus plutonium disposition activities is made, it is premature to develop an agreement with the Shoshone-Bannock Tribes.

FD318-11**DOE Policy**

Should the SPD EIS ROD identify ANL-W as the lead assembly fabrication or postirradiation examination site, DOE would consider taking this recommended action. Until then, it is premature to contact the Governor's office, in this regard, although the State of Idaho was provided with the SPD Draft EIS for review and comment. As discussed in Section 2.4.4.4, any postirradiation examination activities and associated material shipments would comply with the Consent Order and Settlement Agreement in *Public Service Company of Colorado v. Batt* (if the work were

performed at ANL–W), and all other applicable agreements and DOE orders, including provisions concerning removal of material from the applicable examination site.

FD318–12

Lead Assemblies

As described in the revised Section 1.6, DOE prefers LANL and ORNL for lead assembly fabrication and postirradiation examination activities, respectively. Therefore, if the preferred alternatives were selected in the decision, shipments to ANL–W would not be made. Table E–25 indicates planned lead assembly operation from 2003 to 2006. The dates and times that specific transportation routes would be used for special nuclear materials are classified information; however, the number of shipments that would be required, by location, has been included in this SPD EIS. Plutonium is routinely and safely transported in the United States every day. All shipments of surplus plutonium other than MOX spent fuel and immobilized plutonium would be made by the DOE SST/SGT system. The transportation analysis results are presented for each alternative in Chapter 4 of Volume I and detailed in Appendix L. As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures or vehicle emissions are expected.

FD318–13

Waste Management

If ANL–W were selected, the wastes generated by lead assembly fabrication and postirradiation examination would be managed in accordance with the Batt Agreement, the FFCA Agreement, and decisions made in RODs for the WM PEIS and the *WIPP Disposal Phase Final Supplemental EIS*. As described in Section 4.27.1.2 and Appendix H, wastes generated by lead assembly fabrication could be managed using existing and planned waste management facilities with little impact to these facilities. Section 4.27.6.2 was revised to discuss wastes from postirradiation examination at ANL–W should that site be chosen to provide those services in the SPD EIS ROD.

FD318-14**Waste Management**

DOE acknowledges the commentor's concerns regarding spent nuclear fuel management at INEEL. As described in the supporting report, *ANL-WMOX Fuel Lead Assemblies Data Report for the Surplus Plutonium Disposition Environmental Impact Statement* (ORNL/TM-13478, August 1998), unirradiated archived lead assemblies would be managed at the lead assembly facility until lead assembly and postirradiation activities were completed, after which the archives would be shipped to the MOX facility. The bulk of the irradiated lead assembly fuel rods would be stored in the spent fuel pool at McGuire, the reactor where the lead assemblies would be irradiated. Of the rods actually shipped to the postirradiation examination site, one of which is INEEL, some of the wastes from postirradiation examination activities would be considered TRU waste; remaining intact rods and pellets would be managed as spent nuclear fuel. Spent nuclear fuel left over after postirradiation examination would be stored at INEEL until disposed of in a potential geologic repository. This is consistent with the ROD for the *DOE Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs Final EIS* (DOE/EIS-0203-F, April 1995). The spent nuclear fuel generated by this activity would be a very small fraction of the approximately 1,186,800 kg (2,616,419 lb) of spent nuclear fuel currently stored at ANL-W and INEEL. The small amount of spent fuel generated by postirradiation examination would not drive future decisions on spent nuclear fuel management at INEEL or the potential geologic repository.

The remainder of this comment is addressed in response FD318-11.

COMMENTS ON SURPLUS PLUTONIUM DISPOSITION DEIS August 20, 1998

DOE is to be congratulated on their efforts to incorporate in this DEIS suggestions and answers to various issues raised during earlier public comment periods for the Scoping and Storage & Disposition EIS.

There are, however, some salient points that need to be made or emphasized at this time:

1. World peace is extremely questionable with the current potential for proliferation of nuclear weapon materials. Thus, disposition of surplus plutonium by both the U.S. and Russia is of immediate importance.
2. Russia intends to utilize their surplus as MOX (Mixed Oxide) nuclear fuel for power production. The U.S. should likewise be using their pure plutonium for energy production with MOX fuel elements. There is ample information available on MOX from the 1970's to the present. After use in nuclear reactors, it would be thus be rendered equivalent to other Spent Nuclear Fuels. Only the plutonium too impure for either weapon or MOX fuel should be immobilized for burial.
3. It was unfortunate that INEEL was not selected for a new peaceful mission to convert nuclear weapon materials to peaceful energy purposes. The Idaho Falls Scoping meeting was the first and only hearing that was of a technically objective format instead of the 'we want it for jobs and economics' hearings. We are unhappy that DOE has already selected Savannah River as the preferred site for MOX production, rather than awaiting the Record of Decision following the Final Environmental Impact Statement. WIPP might then be open to receive Rocky Flats waste now stored at INEEL. This would then show that the 'Settlement Agreement on Nuclear Wastes' is working so that our political leaders and the public could support new projects at INEEL.
4. DOE's choice of Savannah River as the preferred site for MOX production was not based on any environmental issues at INEEL. The DEIS states (under Cumulative Impacts): "INEEL is currently in compliance with all Federal, State and local air quality regulations and guidelines, and would continue to remain in compliance even with consideration of the cumulative effects of all activities. The surplus plutonium disposition facilities contribution to overall site concentration is extremely small." In this EIS, DOE must answer all concerns of independent oversight advisers (State of Idaho) and stakeholders (Citizens Advisory Board) to assure acceptability of any future nuclear projects.
5. DOE's preference for siting plutonium disposition states: "DOE prefers that INEEL should focus on cleanup and nuclear technology". One example of 'nuclear technology' would be for DOE to choose Argonne-West as the site to make the lead assemblies and do post-irradiation examination if required for NRC licensing of MOX. Based on their superior equipment and expertise, we support Argonne-West for this work. We are encouraged that some of our nation's leaders are now recognizing the need for future additional environmentally-clean nuclear power, and feel sure that INEEL should and will play an important part.

Lowell A. Jobe
Lowell A. Jobe
Coalition 21

IDD04

IDD04-1

Nonproliferation

DOE agrees with the commentator's view that surplus plutonium disposition by both the United States and Russia is of immediate importance to world peace and appreciates the support for the hybrid approach. The SPD EIS analyses include those materials suitable for immobilization and those suitable for MOX fuel fabrication. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself.

IDD04-2

DOE Policy

DOE has prepared this SPD EIS in accordance with the provisions of NEPA (42 U.S.C. 4321 et seq.) and the related CEQ and DOE implementation regulations (40 CFR 1500 through 1508 and 10 CFR 1021, respectively). In accordance with 40 CFR 1502.14(e), the agency shall identify its preferred alternative, if one or more exists, in the draft EIS and identify such alternative in the final EIS. DOE identified the preferred alternative, as required, so the public could understand DOE's orientation and provide comment. Decisions on the surplus plutonium disposition program at INEEL will be based on public input, environmental analyses, technical and cost reports, and national policy and nonproliferation considerations. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

IDD04-3

General SPD EIS and NEPA Process

Section 2.18 provides a summary of the potential environmental impacts from each alternative. The Comment Response Document provides responses to the comments on the SPD Draft EIS received from independent oversight organizations and the public.

IDD04-4

Lead Assemblies

DOE acknowledges the commentator's support for siting lead assembly and postirradiation examination activities at ANL-W. As discussed in Section 2.17, ANL-W was considered as one of several candidate sites because it would require only minimal alteration of interior spaces, is authorized to handle plutonium, and has existing facilities that meet the standards for processing special nuclear material.

As discussed in the revised Section 1.6, based on consideration of capabilities of the candidate sites and input from DCS on the MOX approach, DOE prefers LANL for lead assembly fabrication. LANL is preferred because it already has fuel fabrication facilities that would not require major modifications, and takes advantage of existing infrastructure and staff expertise. Additionally, the surplus plutonium dioxide that would be used to fabricate the lead assemblies would already be in inventory at the site. DOE prefers ORNL for postirradiation examination activities. ORNL has the existing facilities and staff expertise needed to perform postirradiation examination as a matter of its routine activities; no major modifications to facilities or processing capabilities would be required. In addition, ORNL is about 500 km (300 mi) from the reactor site that would irradiate the fuel. Decisions on lead assembly fabrication and postirradiation examination will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

This is Lowell Jobe of Coalition 21. Our phone number is (208) 528-2161. We also have a fax 528-2199. I am asking whether there is going to be an extension on the comment period for this Plutonium Disposition DEIS. We are really tied up with many DOE related meetings here this week and it's going to be difficult to get a real meaningful comment to you. So, I noticed that there was an extension given on the advanced mixed waste treatment plan according to last Saturday's paper. And I'm hoping this will be also an extension on this. I know that the Citizen's Advisory Board is meeting today, Monday the 14th and tomorrow and this plutonium disposition is also on their agenda and I intend to be at their meeting.

1

PD046

PD046-1

General SPD EIS and NEPA Process

A period of 60 days was allowed for public comment on the SPD Draft EIS, and DOE accepted comments submitted by various means: public hearings, mail, a toll-free telephone and fax line, and the MD Web site. Although it did not extend the comment period, DOE did consider all comments received after the close of that period. All comments were given equal consideration and responded to.

COALITION 21
RICHARD KENNEY
PAGE 1 OF 9



Supporting Tomorrow's Technologies With Facts + Not Fears!
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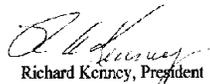
September 16, 1998

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

Subject: Additional Comments on Surplus Plutonium Disposition DEIS

The following comments supplement those submitted by Coalition 21 on September 15.

- 1. Coalition 21 has just completed the attached summary on the risks of plutonium. We request that it be included in the public comment record for this EIS. We ask that DOE address the accuracy of each paragraph in the summary. | 1
- 2. We also wish DOE to consider applicable parts of this summary as the framework of its own summary on plutonium risks to be included in the final EIS. Much misinformation about plutonium resides with the general public. DOE should use this EIS and every other appropriate opportunity to put the risks of plutonium into proper perspective for its stakeholders. | 2
- 3. We have also submitted the plutonium risk summary for the public comment record for the EIS on the Advanced Mixed Waste Treatment Project. This DEIS is out for public comment by the Idaho Office of DOE. Please ensure that DOE's responses to the summary are consistent between the two EIS's. | 3


Richard Kenney, President

Attachment (4 pages)

MD240-1

Human Health Risk

DOE acknowledges the views expressed in the commentor's summary which is included in the public record as part of the SPD EIS. The comments on the SPD Draft EIS have been reviewed and acknowledged by DOE as shown in the following responses. The scope of this comment response process, however, focuses on the issues and alternatives related to this SPD EIS.

MD240-2

Human Health Risk

DOE acknowledges that there is misinformation about plutonium among the public. It has established reading rooms near DOE sites to provide easy access to information about DOE programs and encourages the use of this source of information. DOE has numerous Web sites, including the MD Web site at <http://www.doe-md.com>, that also provide up-to-date information about DOE programs.

MD240-3

General SPD EIS and NEPA Process

This comment is addressed in response MD240-1.

THE RISKS OF PLUTONIUM

September 1998

Most of us recognize carbon dioxide as vital to our environment to make plants thrive. People who follow the global warming debate know that too much carbon dioxide might add to the risks of global warming. Until July 1998, few people in Eastern Idaho were aware that a single lungful of this very common gas in our atmosphere could result in death. Yet that's what happened to an employee at INEEL. Thus risks from even extremely common materials are not obvious.

Plutonium is a man-made material whose origin is linked to nuclear bombs. Like many man-made materials, including most chemicals, it can be both beneficial and potentially harmful. It has raised genuine concerns in the general public. Coalition 21 believes that some groups are opposed to nuclear benefits in any form. We recognize that some such groups deliberately fuel the genuine concerns with a campaign of misinformation.

The challenge in that climate is to describe plutonium risks in two two-sided sheets of valid and interesting information. (We concluded at once that one sheet is not enough). We must make this information factual and subject to a minimum of debate. We'll meet this challenge by addressing the most common concerns, allegations, and claims.

Allegation: Plutonium is the most dangerous material known to man. That statement originated during World War II. Then plutonium was being made for the atomic bomb dropped on Nagasaki. Those responsible for plutonium worker safety wanted to make sure that this new material was not handled carelessly. Since then this now publicly disproved statement has derived its only authority from constant repetition. Experts in industrial hygiene do not support it.

A number of chemical and biological agents, such as nerve gases and botulism, are fatal to man in much smaller quantities. Even common materials such as caffeine, carbon dioxide, cyanides, lead and arsenic are, at times, more hazardous poisons.

The risk of plutonium differs from that of these other materials. Its chemical toxicity is inconsequential. Its primary hazard comes from its radioactivity if it is somehow taken into one's body. Our skin helps to protect us from this radioactivity. The danger arises from a radiation dose delivered to various organs inside the body. In general, plutonium that is inhaled is far more hazardous than plutonium that is swallowed. It is more readily absorbed into the blood stream via the lungs than via the G. I. tract. (For readers needing numbers, see the end of this fact sheet). Nevertheless, nobody is known to have died from a disease that indisputably developed from contamination with plutonium.

Concern: Plutonium is poisoning the Snake River Plain Aquifer. Or "plutonium is conceivably a health risk to those drawing water from the aquifer beyond the INEEL."

Between 1954 and 1970 waste shipped in from the nuclear weapons plant at Rocky Flats was buried in about a dozen acres at the INEEL. These locations are about 500 feet above the aquifer. This industrial-type waste contains an estimated several thousand pounds of

MD240

plutonium. Debate continues about the movement of traces of the buried plutonium downward through the 500 feet of soil toward the aquifer. Diversion dikes are preventing the repetition of past surface flooding of the burial site. This step should lessen the likelihood of further plutonium movement in the soil.

Digging up plutonium waste in Pit 9, and the soil immediately below it, will help in making future decisions. Cost and the risk of industrial accidents may not justify digging up the waste. Even if all the buried waste were dug up, the soil cannot be totally cleaned of plutonium contamination. Quantities of soil that are judged environmentally safe will need to be reburied.

Even if small quantities of plutonium reach the aquifer, they will most likely be filtered out before they reach any human. The properties of plutonium minimize its buildup in water. Its most common chemical compound, plutonium oxide, is less soluble than sand. Water does not easily dissolve or carry plutonium, a heavy metal.

Wastewater from some INEEL facilities was injected directly into the aquifer from 1953 until 1986. This wastewater contained very small quantities of plutonium. The quantities are only slightly more than can be attributed to fallout from nuclear weapons testing. Regulations apply to contaminants of water supplies. The Environmental Protection Agency has applicable drinking water standards. For plutonium, the injected water met all drinking water standards, both State and federal.

The trace quantities of plutonium move much slower than the water. Since 1953, water from the injection wells has moved in the aquifer an average of at least 20 miles in a southwesterly direction. Yet plutonium in barely detectable amounts has reached less than a half-mile from the injection wells. Thus plutonium is nowhere near the southern INEEL boundary.

Allegation: Inhaling one particle of plutonium can cause lung cancer. Plutonium has not been the identified cause of any cancer deaths in the U. S. Some workers who handled plutonium during World War II accidentally inhaled significant quantities. Doctors monitored one group of these workers regularly. Decades later the workers' rate of lung cancer was no greater than in the rest of American society.

Inhaled plutonium particles above a certain size do not reach the lungs. A person would need to inhale nearly one million of the largest particles reaching the lungs to become an eventual victim of lung cancer. A continuing concern expressed at public meetings is that the so-called HEPA filters used by industry to filter out extremely small plutonium particles are not as efficient as claimed. In this size range the number of particles that would cause a lung cancer, if inhaled by a person, is a billion or more.

Claim: A sheet of paper can stop radiation from plutonium. Essentially all radiation emitted by plutonium is of very low energy. The thickness of the human skin can therefore prevent radiation damage to the rest of the body. Plutonium can emit other forms of radiation with higher energy. However, their intensity is low and they do not

present great dangers. Nevertheless they are a factor, now that the amount of rad permitted for industrial workers has become more conservative. A plutonium-fa plant built in Germany, but never operated, is a monument to this increased conservatism.

Allegation: Plutonium makes a nuclear reactor accident much worse. All nuclear power plants that make electricity produce plutonium. For a typical U.S. plant, this plutonium generates about one-third of the total energy output. It is under controlled conditions. Under accident conditions, the reactor could be sufficiently damaged to result in the release of harmful radioactivity. The main threat would not be airborne plutonium. The accident at Three Mile Island in Pennsylvania dispersed no plutonium. Only a small amount was released during the much more severe accident at Chernobyl. Under no circumstances could a reactor explode like a nuclear bomb.

Concern: Plutonium from peaceful uses can be diverted to nuclear bombs. Each commercial nuclear power plant discharges once-used fuel each year containing several hundred pounds of plutonium. The U. S. does not attempt to recover the plutonium from the highly radioactive fuel. Other countries are recovering plutonium.

The recovery process is technically quite difficult. It is not realistic for terrorists. It requires a major national commitment in resources. Therefore the Russians and the U. S. are talking about including our excess weapons plutonium in fuel for power reactors. Not only would some bomb material be used up in producing energy, but also the remainder would be hard to recover after use in a reactor.

The countries that do recover plutonium from reactor fuel believe they account for the plutonium very carefully. Reactor plutonium is much less pure than weapons material. A very crude and inefficient nuclear bomb could be made from reactor plutonium at great risk to the producer.

Allegation: Plutonium can neither be transported nor disposed safely. No one anywhere in the world has been injured by radiation from shipments of nuclear materials. Plutonium, as nuclear weapons material, has been sent around the country for fifty years without a serious accident. Likewise shipments of used fuel from the nuclear Navy and from foreign reactors have had no serious accidents. The used fuels have operated successfully at much higher temperatures than the temperatures in the shipping containers. The containers are heavy, lead-shielded casks. They have been tested under very severe simulated accident conditions and proven safe.

The main form of plutonium loses its radioactivity very slowly. To lose it all will take about 200,000 years. (Remember that poisons like arsenic never lose their toxicity.) The EPA has approved the Waste Isolation Pilot Plant (WIPP) for storage/disposal of plutonium-contaminated waste generated by the nuclear weapons program. The State of New Mexico is challenging that decision. Their concern seems to center not around the plutonium, but around the hazardous organic solvents also in the waste.

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The U. S. is intending to dispose of once-used nuclear fuel containing plutonium at Yucca Mountain in Nevada. The government has not yet certified that facility as safe for this disposal. One reason that other countries recover the plutonium from nuclear fuel is to lessen the amount of material that needs such extraordinarily long safe storage. With the plutonium and other fuel materials removed, the resulting nuclear waste loses its radioactivity in about 500 years. The ability to build storage facilities that have lasted that long dates back to the Egyptians. Witness their pyramids.

In summary, since its discovery, plutonium has been intensively studied. Its qualities are better understood than many common industrial materials. It must be handled carefully, like any other useful but potentially harmful material. It has been generally used safely. The processes for handling it have continued to become more conservative. Members of Coalition 21 believe that the plutonium risks to the general public in Idaho are minimal. In our opinion, these risks can continue to be adequately managed.

For those wanting numbers: Inhalation risk: Swallowing an estimated 500 milligrams of plutonium will cause acute fatal damage to the GI tract. That amount is 50% more than an adult aspirin weighing 325 milligrams. Inhaling 20 milligrams of plutonium dust of optimal particle size will cause death in about a month due to lung damage.

Inhaling one-tenth of a milligram of plutonium will eventually cause fatal lung cancer. The largest particle of plutonium that can be readily inhaled is about 3 micrometers in diameter. (The diameter of the human hair is up to 20 times greater.) It would require 700,000 of these particles to make 0.1 milligrams. Reducing the diameter of the average particle to 0.2 micrometer decreases its volume by 3500. This reduction in size increases the potentially fatal number of particles (in 0.1 milligrams) to over 2 billion.

Plutonium in water: Measurements of plutonium traces in natural waters have been made in many places around the world. Water in contact with sediments (soils) dissolves only about one part in 10,000 to 100,000 of the plutonium in the adjacent sediment.

Plutonium forms and radioactivity: Pu-239 is the main form of plutonium, both in weapons and in a less pure state in reactor fuel. This plutonium isotope has a half-life of 23,400 years. (Half-life means the time to lose half of its remaining radioactivity). At most, ten half-lives are needed for essentially all radioactivity to disappear. Reactor fuel contains other plutonium isotopes with much shorter half-lives. The shorter half-life make them and the reactor fuel much more radioactive than weapons-grade plutonium.

References: Furnished on request.

Coalition 21 is an all-volunteer group supporting the beneficial uses of nuclear technology. You may write us with your comments on this summary at P. O. Box 51232, Idaho Falls, Idaho 83404. The email address is facts@coalition21.com.

George Freund prepared this summary. Reviewers included Coalition 21 members Jack Barraclough, John Commander, Steve Herring, Mary Huebner, and Dick Kenney.

MD240



Supporting Tomorrow's Technologies With Facts + Not Fears
P.O. Box 51232+Idaho Falls, Idaho 83405+208-528-2161+FAAX: 528-2191

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

COMMENTS ON SURPLUS PLUTONIUM DISPOSITION DEIS Sept. 15, 1998

DOE is to be congratulated on their efforts to incorporate in this DEIS suggestions and answers to various issues raised during earlier public comment periods for the Scoping and Storage & Disposition FEIS. There remain, however, some points about which we wish to comment or question:

1. World peace is extremely questionable with the current potential for proliferation of nuclear weapon materials. Thus, disposition of surplus plutonium by both the U.S. and Russia is of immediate importance. Russia intends to utilize their surplus as MOX (Mixed Oxide) nuclear fuel for power production. The U.S. should likewise be using their pure plutonium for energy production with MOX fuel elements. There is ample information available on MOX from the 1970's to the present. We strongly feel that only the plutonium too impure for either weapon or MOX fuel should be immobilized for burial.
2. We are unhappy that DOE has already selected Savannah River as the preferred site for MOX production, rather than awaiting the Record of Decision following the Final Environmental Impact Statement. WIPP might then be open to receive Rocky Flats waste now stored at INEEL. This would then show that the 'Settlement Agreement on Nuclear Wastes' is working, so that our political leaders and the public could actively support new projects at INEEL.
3. DOE's choice of Savannah River as the preferred site for MOX production was not based on any environmental issues at INEEL. We feel that DOE should clearly state that environmental impacts of the MOX project at INEEL would be extremely small and were not a basis of their preference of SRS for the Plutonium MOX Fuel Fabrication Facility.
4. Pantex was included as a possible site for the pit disassembly and conversion facility. This is logical since most of the MOX plutonium (as pits) is located there. The non-weapon plutonium oxide presents no different proliferation concern if it were to be shipped to INEEL.
5. Transportation distances to move plutonium oxide from Pantex would be essentially the same to INEEL as to SRS. Therefore, shipment to INEEL would not constitute any additional and unnecessary transportation, as claimed by DOE.
6. The plutonium too impure for MOX fabrication can logically be shipped directly to SRS for immobilization.

MD240

MD240-4

Nonproliferation

DOE agrees with the commentator's view that surplus plutonium disposition by both the United States and Russia is of immediate importance to world peace and appreciates the support for the hybrid approach. The SPD EIS analyses include those materials suitable for immobilization and those suitable for MOX fuel fabrication. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself.

MD240-5

Alternatives

DOE has prepared this SPD EIS in accordance with the provisions of NEPA (42 U.S.C. 4321 et seq.) and the related CEQ and DOE implementation regulations (40 CFR 1500 through 1508 and 10 CFR 1021, respectively). In accordance with 40 CFR 1502.14(e), the agency shall identify its preferred alternative, if one or more exists, in the draft EIS and identify such alternative in the final EIS. DOE identified the preferred alternative, as required, so the public could understand DOE's orientation and provide comment. Decisions on the surplus plutonium disposition program at INEEL will be based on public input, environmental analyses, technical and cost reports, and national policy and nonproliferation considerations. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

MD240-6

Alternatives

As indicated in Section 1.6, SRS is preferred for the MOX facility because this activity complements existing missions and takes advantage of existing infrastructure and staff expertise. DOE prefers that INEEL focus on cleanup and nuclear technology. Environmental impact analyses of the proposed surplus disposition actions discussed in Chapter 4 of Volume I show that the potential impacts of the proposed actions during routine operations are small for all DOE candidate sites.

MD240-7**Alternatives**

Proliferation issues associated with the transportation of plutonium dioxide from a pit conversion facility at Pantex to a MOX facility at either INEEL or SRS would not be the only discriminating factor for selection between INEEL and SRS for the MOX facility. As indicated in the revised Section 1.6, SRS is preferred for the proposed surplus plutonium disposition facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure.

MD240-8**Alternatives**

DOE assumes that the commentor's suggestion is to locate the pit conversion facility at Pantex, the immobilization facility at either Hanford or SRS, and the MOX facility at INEEL. Transportation of pits from Pantex to INEEL rather than SRS may not involve additional, unnecessary transportation, but this arrangement would locate each of the proposed facilities at a different site. Section 2.3.1 of the SPD Draft EIS explained that a range of 23 reasonable alternatives remained after evaluating over 64 options against three screening criteria: worker and public exposure to radiation, proliferation concerns due to transportation of materials, and infrastructure cost. These 23 reasonable alternatives were evaluated in the SPD Draft EIS. After the Draft was issued, DOE eliminated as unreasonable the 8 alternatives that would involve use of portions of Building 221-F with a new annex at SRS for plutonium conversion and immobilization, thereby reducing the number of reasonable alternatives to the 15 that are analyzed in the SPD Final EIS. Options that placed each of the three facilities at a different site were eliminated as unreasonable.

MD240-9**Alternatives**

Most of the plutonium that would be immobilized under the hybrid alternatives would be sent directly to the immobilization facility for conversion to plutonium dioxide, followed by immobilization. SRS has been announced as the preferred site for all three proposed surplus plutonium disposition facilities; therefore, all the surplus plutonium would be transferred to SRS for processing should SRS be selected.

7. The combination of items 4, 5, and 6 would make a logical alternative that should have been considered by DOE. An explanation of why it wasn't would be in order. 10

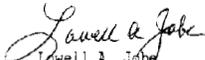
8. No reasons were stated in the DEIS for DOE's preference for siting MOX Fuel Fabrication at SRS beyond stating "DOEprefers similarly that INEEL should focus on cleanup and nuclear technology". We believe that the MOX project belongs in the 'nuclear technology' focus specified for INEEL. A MOX Fuel Fabrication Facility at INEEL could then continue the peaceful nuclear power technology that had its roots at INEEL. 11

9. A major example of 'nuclear technology' would be for DOE to choose Argonne-West as the site to make the lead assemblies and do post-irradiation examination if required for NRC licensing of MOX. Based on their superior equipment and expertise, we support Argonne-West for this work. 12

10. In answer to many commentators (including ourselves) for the need to analyze total costs of each alternative, DOE prepared a separate cost study (DOE/MD 0009) that will be considered along with the SPD EIS analysis in the decisionmaking process. This ROD must consider the cost results of that study and, at least, state that INEEL was very cost effective: the actual cost document shows INEEL lower cost than any other site or alternatives and even equal to or less than any immobilization-only alternatives. 13

11. In consideration of all the factors we have presented, based upon all SPD EIS documents reviewed, it appears to us that DOE should have given INEEL a more favorable consideration for the MOX Fabrication Facility or give the reasons for not doing so. 14

Respectfully submitted,


Lowell A. Jobs
Coalition 21

MD240

MD240-10

Alternatives

This comment is addressed in response MD240-8.

MD240-11

Alternatives

This comment is addressed in response MD240-6.

MD240-12

Lead Assemblies

DOE acknowledges the commentor's support for lead assembly fabrication and, if required, postirradiation examination at ANL-W. All the lead assembly candidate sites were considered because they have existing facilities that meet the standards for processing special nuclear material, would require only minimal alteration of interior spaces, and are authorized to handle plutonium. ANL-W was also identified as a potential location for postirradiation examination because of its existing hot cell facilities in which tests on fuel rods from irradiated lead assemblies could be conducted.

As discussed in the revised Section 1.6, based on consideration of capabilities of the candidate sites and input from DCS on the MOX approach, DOE prefers LANL for lead assembly fabrication. LANL is preferred because it already has fuel fabrication facilities that would not require major modifications, and takes advantage of existing infrastructure and staff expertise. Additionally, the surplus plutonium dioxide that would be used to fabricate the lead assemblies would already be in inventory at the site. DOE prefers ORNL for postirradiation examination activities. ORNL has the existing facilities and staff expertise needed to perform postirradiation examination as a matter of its routine activities; no major modifications to facilities or processing capabilities would be required. In addition, ORNL is about 500 km (300 mi) from the reactor site that would irradiate the fuel. Decisions on lead assembly fabrication and postirradiation examination will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

MD240-13

Cost Report

DOE acknowledges the commentor's support for the cost effectiveness of siting the proposed surplus plutonium disposition facilities at INEEL. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

MD240-14

Alternatives

DOE acknowledges the commentor's support for siting surplus plutonium disposition facilities at INEEL.

The remainder of this comment is addressed in response MD240-6.

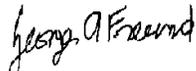
2025 Balboa Drive
Idaho Falls ID 83404

September 15, 1998

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

Comments on Surplus Plutonium Disposition DEIS

1. DOE should clearly state that environmental impacts of the MOX project at INEEL would be minimal and that these impacts were not used to rule out INEEL as the preferred site for the MOX Fuel Fabrication Facility. The failure of INEEL to be the preferred site should not be used to generate opposition to future nuclear technology projects at INEEL. 1
2. To further nuclear technology at INEEL, DOE should select Argonne-West for the fabrication of the MOX lead assemblies and for their post-irradiation examination. ANL-West is the only DOE site deemed capable of doing both tasks. DOE should explain in the DEIS and/or ROD what advantages, if any, accrue from that fact. 2
3. DOE should explain in the DEIS when and why, under the hybrid option, it eliminated any alternative that would involve three separate facilities for the three tasks of (a) pit disassembly and conversion, (b) MOX fabrication and (c) immobilization. I believe an alternative involving Pantex for (a), INEEL for (b), and SRS for (c) would be competitive with other alternatives. It should not be dismissed out-of-hand and should be analyzed more thoroughly. 3



George A. Freund

MD239

MD239-1

Alternatives

DOE acknowledges the commentor's support for siting the MOX facility at INEEL. Chapter 4 of Volume I describes environmental impacts of the implementation of alternatives that included the construction and normal operation of MOX facilities at INEEL. DOE prefers that INEEL focus on cleanup and nuclear technology. Environmental impact analyses of the proposed surplus disposition actions discussed in Chapter 4 show that the potential impacts of the proposed actions during routine operations are small for all DOE candidate sites.

SRS is preferred for the MOX facility because this activity complements existing missions and takes advantage of existing infrastructure and staff expertise. Decisions on the surplus plutonium disposition program at INEEL will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

MD239-2

Lead Assemblies

DOE acknowledges the commentor's support for siting lead assembly and postirradiation examination activities in ANL-W at INEEL. As noted in Section 2.17, ANL-W was considered as one of several candidate sites because it would require only minimal alteration of interior spaces, is authorized to handle plutonium, and has existing facilities that meet the standards for processing special nuclear material.

As discussed in the revised Section 1.6, based on consideration of capabilities of the candidate sites and input from DCS on the MOX approach, DOE prefers LANL for lead assembly fabrication. LANL is preferred because it already has fuel fabrication facilities that would not require major modifications, and takes advantage of existing infrastructure and staff expertise. Additionally, the surplus plutonium dioxide that would be used to fabricate the lead assemblies would already be in inventory at the site. DOE prefers ORNL for postirradiation examination activities. ORNL has the existing facilities and staff expertise needed to perform postirradiation examination as a matter of its routine activities; no major modifications to facilities or

processing capabilities would be required. In addition, ORNL is about 500 km (300 mi) from the reactor site that would irradiate the fuel. Decisions on lead assembly fabrication and postirradiation examination will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

MD239-3

Alternatives

Section 2.3.1 of the SPD Draft EIS explained that a range of 23 reasonable alternatives remained after evaluating over 64 options against three screening criteria: worker and public exposure to radiation, proliferation concerns due to transportation of materials, and infrastructure cost. Options placing three facilities at three different sites were eliminated from consideration because this arrangement did not meet these screening criteria. Options were not dismissed out of hand, but were eliminated as part of a methodical process to narrow the scope of this SPD EIS to a reasonable range of alternatives. Since publication of the SPD Draft EIS, DOE eliminated another 8 alternatives that would have involved the use of portions of Building 221-F at SRS and a new annex for plutonium conversion and immobilization at that site, thereby reducing the number of reasonable alternatives to 15 that are analyzed in the SPD Final EIS. The environmental impacts of these alternatives are summarized in Section 2.18 and elaborated in Chapter 4 of Volume I.

Mary Jane Fritzen
390 Lincoln Drive
Idaho Falls, Idaho 83401-4166

23 August 1998

Subject: Comments for public meeting on Surplus Plutonium Disposition

I have learned a lot about science by reading information about nuclear energy. I am not associated with the field, except to live in Idaho Falls with neighbors who work for nuclear industry. Many good people work for "the site." It has been good for this city. For example, they are peaccful citizens, who contribute to the fine arts, making Idaho Falls a place of peace, beauty and culture.

Points I see in general, which apply to the issue:

1. Need for energy independent of expendable fossil fuel. Otherwise we would depend on Middle East, where peace is insecure.

2. Need for continued good relations with Russia

Recently (June 1998, Provo, Utah) I listened to a forum of two speakers: the U. S. General in charge of on-site inspections, and the Russian General in charge of on-site inspections. Subject with the nuclear non-proliferation treaty between the two nations. Both generals emphasized the success of such mutual inspections. They said working together makes us friends. We are only afraid of our enemies. For example, the U.S. doesn't fear Canada. The need for disarmament vanishes when we are friendly. Both speakers advocated "open skies," because fear is bred in ignorance or secrecy, while knowledge dispels fear. They said high technology is not needed for open skies. Someone with binoculars in a helicopter could detect a major military build-up. The previous build-up of warheads was caused by each fearing the other was a threat.

(I typed detailed notes, which I would be happy to send if requested.)

3. Need to use and value the expertise of nuclear scientists. For example, one speaker at last week's public meeting advocated converting the plutonium to metal for storage.

Because an uninformed public is fearful of nuclear energy, I believe education of students in public schools and of journalists is necessary.

*Thank you,
Mary Jane Fritzen*

FD199

FD199-1

Other

DOE acknowledges the commentor's views on the value of nuclear industry workers in Idaho Falls, nuclear power as an alternative energy source, the nonproliferation activities of the United States and Russia, and public information and education programs with regard to nuclear energy.

The United States and Russia recently made progress in the management and disposition of plutonium. In late July 1998, Vice President Gore and Russian Prime Minister Sergei Kiriyenko signed a 5-year agreement to provide the scientific and technical basis for decisions concerning how surplus plutonium will be managed. This agreement enables the two countries to explore mutually acceptable strategies for safeguarding and dispositioning surplus plutonium. During the first week of September 1998, Presidents Clinton and Yelstin held a Moscow summit and signed a statement of principles with the intention of removing approximately 50 t (55 tons) of plutonium from each country's stockpile.

The United States does not currently plan to implement a unilateral program; however, it will retain the option to begin certain surplus plutonium disposition activities in order to encourage the Russians and set an international example.

DOE regards public education as a very high priority. Accordingly, it uses various communications resources to make information on its policies and program publicly available. DOE presents information about the disposition of fissile materials to the public in various forms. These include public hearing presentations, fact sheets, exhibits, technical reports, visual aids, and a video. Information is available from a variety of sources, including DOE reading rooms, the MD Web site (<http://www.doe-md.com>), and attendance at public hearings.



United States
Department
of Energy

Comment Form

9/16/98

NAME: (Optional) Walter L. Hampson
ADDRESS: 8145 Rob Ln, Boise, ID 83703-2566
TELEPHONE: (208) 853-0814; FAX: (208) 853-7528
E-MAIL: Soon

• See my comments in 1997 AFTER ATTENDING THE IDAHO FALLS meeting; THEY ARE ALL STILL VALID TODAY (See Copy Attached)

• ALTHOUGH I STILL THINK HANFORD IS THE LOGICAL choice FOR MOX FABRICATION, I SEE NO PARTICULAR objection to Savannah River. I AM GLAD TO SEE THINGS PROGRESSING TOWARD ESTABLISHING U.S. MOX FABRICATION SOON. I THINK WE SHOULD DO THE SAME THROUGHOUT THE FUEL CYCLE AND MAINTAIN "STAND ALONE" CAPABILITY IN CASE OF FUTURE needs, both military AND DOMESTIC.

• THE SUBJECT EIS MATERIAL IS VERY WELL DONE AND EASY TO FOLLOW HOWEVER THE SELECTION OF SITES FOR SPECIFIC TASKS SEEMS TO BE BASED ON CONSIDERATION OF OTHER WORKS BEING DONE AT THOSE SITES. I WOULD THINK THE MOST SUITABLE SITE FOR THE WORK THAT SEEMS TO BE ARBITRARY JUDGMENT AS TO THE SITES CAPABILITY TO ACCOMPLISH A MULTI-PURPOSE MISSION AND MAY NOT RESULT IN THE PROPER, LOWEST COST, DECISION. TOO MUCH AT ONE SITE MIGHT JEOPARDISE SECURITY, i.e. more vulnerable to enemy actions??

• THANK YOU FOR THE OPPORTUNITY TO REVIEW & COMMENT. GOOD LUCK!
Sincerely, Walter Hampson

* Attached 1977 Comments
* Note: FAX'd on 9/16/98;
will also mail on 9/16/98 w/CC

1

2

FD311

FD311-1

MOX Approach

DOE appreciates the commentator's input on the MOX approach to surplus plutonium disposition. The current plan calls for maintaining the MOX fuel cycle within the United States. The MOX fuel would be fabricated in a Government-owned facility and irradiated in a domestic, commercial reactor in a once-through cycle with no reprocessing.

FD311-2

General SPD EIS and NEPA Process

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

As indicated in Section 1.6, SRS is preferred for the MOX facility because this activity complements existing missions and takes advantage of existing infrastructure and staff expertise.

Attachment to 1998 Comments, 9/16/98 (1997 copy)

Surplus Plutonium Disposition
Environmental Impact Statement
Comment Form

United States Department of Energy

NAME: (Optional) WALTER L. HAMPSON
ADDRESS: 8145 Rue Ln, Boise, ID 83703-2566
TELEPHONE: (208) 853-0614; FAX: (208) 853 7528
E-MAIL: _____

3
4
5

- MOX FUEL FABRICATION SHOULD BE DONE! IT CAN BEST BE DONE AT HANFORD WHERE EXTENSIVE R. & D. plus COMMERCIAL PLANT RUNS ON MOX FUEL WAS DONE IN THE 1960'S AND EARLY 1970'S. IN ADDITION, A COMMERCIAL MOX PLANT WAS INSTALLED AND OPERATED BY EXXON NUCLEAR (NOW H.G. SAHNEUS) ADJACENT TO THE NUCLEAR RESERVATION. A COMMERCIAL RELOAD OF MOX FUEL WAS FABRICATED AND SHIPPED TO THE KATH Test Reactor in GERMANY (By Air) in the EARLY 1970'S.
- THIS SHOULD BE DONE BY AMERICAN CONTRACTORS ON A SECURE FEDERAL NUCLEAR RESERVATION UNDER MILITARY - type CONTROL.
- ESTIMATES SHOULD BE MADE BY EXPERIENCED ENGINEERS IN THE FABRICATION OF MOX FUEL. IF NOT, ESTIMATES BY PEOPLE WHO HAVE NOT DONE IT SHOULD PROBABLY BE DOUBLED OR TRIPLED. THIS IS A VERY DEMANDING BUSINESS IN EVERY WAY AND THERE IS NO SUBSTITUTE FOR ACTUAL, "HAVE DONE IT" type EXPERIENCE. (Don't try "virtual reality" on this one)
- OTHER COUNTRIES ARE PROCEEDING WITH THE TOTAL FUEL CYCLE, INCLUDING ENRICHMENT (CENTRIFUGE & AVLIS), REPROCESSING, MOX FUEL FABRICATION AND FAST BREEDER REACTORS, REGARDLESS OF WHAT THE UNITED STATES DOES. THEREFORE THE U.S. DECISION SHOULD NOT FACTOR IN "PERCEPTIONS" OF WHAT OTHER COUNTRIES MIGHT THINK OR DO. THEIR ENERGY NEEDS ARE, IN GENERAL, MUCH MORE ACUTE THAN THE U.S. THEREFORE THEY MAY BELIEVE THE ADDED RISKS OF NUCLEAR ARE WORTH IT. PROLIFERATION MUST BE ADDRESSED EVERYWHERE -- if we want to BE AN EXAMPLE, WE SHOULD DEMONSTRATE THE PROPER WAY TO DO THINGS, RATHER THAN "BACK AWAY" AND HOPE FOR THE BEST! THE "GENIE" IS OUT OF THE BOTTLE -- WE PUT THE OTHERS IN THIS BUSINESS -- LET'S STAY IN IT AND SHOW THEM FOR FURTHER INFORMATION CONTACT: HOW TO DO IT RIGHT!

U.S. Department of Energy, Office of Fissile Materials Disposition, MD-4
Forrestal Building, 1000 Independence Ave., SW, Washington, D.C. 20585
1-800-820-5156

W. Hampson

FD311

3-243

FD311-3

MOX Approach

DOE has identified as its preferred alternative a hybrid approach of using both immobilization and MOX fuel fabrication to disposition up to 50 t (55 tons) of surplus plutonium. Under this alternative, approximately 33 t (36 tons) of clean plutonium metal and oxides would be used to fabricate MOX fuel, which would be irradiated in domestic, commercial reactors. The remaining 17 t (19 tons) of surplus, low-purity, nonpit plutonium is not suitable for fabrication into MOX fuel because of the complexity, timing, and cost that would be involved in purifying those plutonium materials.

The remainder of this comment is addressed in response FD311-2.

FD311-4

MOX Approach

DOE conducted a procurement process to acquire MOX fuel fabrication and irradiation services. The selected team, DCS, would design, request a license, construct, operate, and deactivate the MOX facility as well as irradiate the MOX fuel in domestic, commercial reactors. However, these activities are subject to the completion of the NEPA process. Although COGEMA is international, it is one of only a few companies with recent commercial MOX fuel fabrication experience, and this experience would contribute to the success of DOE's MOX fuel fabrication effort.

The MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program.

FD311-5

Nonproliferation

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

the MOX approach would be considered for higher-purity feed materials. DOE will continue to discourage Russia from reprocessing its spent nuclear fuel and starting a plutonium cycle but this issue is beyond the scope of this SPD EIS. As stated in response FD311-1, the use of U.S. surplus plutonium in existing domestic, commercial reactors does not involve reprocessing (reprocessing is a chemical separation of uranium, transuranic elements [including plutonium], and fission products from spent reactor fuel and the reuse of the plutonium and uranium to produce new fresh fuel). The proposed use of MOX fuel is consistent with the U.S. nonproliferation policy and would ensure that plutonium which was produced for nuclear weapons and subsequently declared excess to national security needs is never again used for nuclear weapons. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input, not “perceptions” of what other countries may think or do.

NEWS RELEASE

RE: The MOX plutonium fuel refinery(or how to accidentally become the supersite)

Rumors of the death of MOX have been greatly exaggerated. How long will it take for Kempthorne or Huntley to organize a rally for the nuclear project after they are elected? I'd give them 30 minutes to call their supporters on the Idaho Falls Chamber of Commerce. These people have never met a nuclear project that they didn't like. We should be prepared. We should reinstate accident analysis into our state Air Quality Permits but our politicians refuse. Please let me explain...

The first tier EIS for plutonium disposition talked about the "triple play".(1/97) For the first time the DOE stated that an accident at the nuclear reactors that will use the plutonium fuel(plus make tritium for nuclear weapons and electric power to be sold) could cause up to 7,000 cancer deaths. In the final analysis INEEL has less people living in the 50 mile area that is used to compare project sitings. The DOE admits that the choice of where to build this nuclear supersite may change in the final document.

In 1991, the DOE was passing out pink slips at the ICPP, saying fuel reprocessing was over. At the same time, the DOE was applying for 17 Air Quality Permits to prepare to reprocess 17 types of fuel rods. Thanks to the nuclear "deal" we are now receiving many types of fuel rods from around the world. The nuclear businesses that pay Kempthorne and Huntley view spent fuel rods and weapons grade plutonium as a fuel source, not a waste.

During the documented transcript of my appeal of that Air Quality Permit I caught the DOE lying about the accident analysis that was required for the permit. The wrong computer program, that wasn't supposed to be used for accidents, eliminated most of the radionuclides released, falsifying the results. The state response was to look the other way and then they removed the requirement for accident analysis for permits!

So I ask you, were they protecting your children, or protecting Lockheed? Even if the MOX plutonium project goes to South Carolina, why won't Kempthorne and Huntley join me in my effort to reinstate accident analysis to the permits to protect state's rights?

My sympathy is with the family of the INEEL worker who died in their most recent accident. Doctors make mistakes, too, and fortunately this was not a big nuclear accident. Doctors can only kill one person at a time, when we make a mistake during a necessary operation. The nuclear businesses can devastate a whole area and that's why we must question if the nuclear future is on a dead end road. The people of Idaho have a right to know the truth about our nuclear future. We have a right and obligation to our children to not remain at the mercy of political salesmen like Kempthorne and Huntley. Is states right's just a cute phrase politicians use to get elected? Should we remain at the mercy of Bill Clinton's DOE ? Do Bill, Dirk, and Bob know what's best or should we put accident analysis back in our state permits ?

Dr. Peter Rickards DPM
Box 911,TF,83303
734-7941(H), 734-3338(W)

IDD02

IDD02-1

Human Health Risk

DOE acknowledges the commentor's concern about the MOX approach. This SPD EIS does not address the siting or operation of a "triple play" reactor. Section 4.28 was revised to provide reactor-specific analyses and discuss the potential environmental impacts of using a partial MOX core during routine operations and reactor accidents. Reactors that use MOX fuel have small accident risks similar to those associated with reactors that use only LEU fuel. Were a major accident to occur at a reactor using either fuel type, there would be fatalities in the public. However, the probability of a major accident actually occurring is about 1 in 100,000 over the lifetime of the reactor; thus, the risk (consequence times probability of occurrence) of an LCF in the public is much less than 1.

Changes to Idaho air quality permit requirements are beyond the scope of this EIS; they are a State rather than a DOE issue. However, contacts have been made with the Idaho Division of Environmental Quality and with the contractor responsible for air quality permits for INEEL. There have been no State requirements to perform an accident analysis as part of the air-permitting process regardless of the type of pollutant that could be emitted (criteria pollutants, toxic pollutants, or radionuclides). Only routine operations are considered in the air-permitting process.

Yes. This is Thomas J. Sutter. 1414 South 35 West, Idaho Falls, ID 83402-5538. Telephone number is 529-0624. What I'd really like to know is where the workshops are at today on the Surplus Plutonium Disposition Draft Environmental Impact Statement Public Meeting. I see there is an afternoon and evening workshop, but it doesn't give where they're going to be at.

Second thing is, I just want to let it be known that I'm in favor of the MOX program and I would think that disposing of plutonium which is no longer needed for nuclear weapon should be in the best interests of our country. Also I would think that if we had the opportunity to receive any of that material from any other nation in the globe, it would be best if we did the reprocessing and particularly if we could do it here in Idaho it would make a lot of sense to me. But if we can't then I would encourage reprocessing it wherever its going to be done. And I would like to also note that this plutonium is very valuable material and it should not be placed in a depository where it could not be put to better use at some time in the future and the, only the most impure plutonium that can not have any further use should be put in the glass and buried directly. So I'd just like to talk in support of the MOX program as proposed by the Department of Energy. Thank you very much and if you would let me know where the meeting is going to be I would appreciate it. Tom Sutter 529-0624. Thank you.

1

PD033

PD033-1**MOX Approach**

DOE acknowledges the commentor's support for the MOX approach.

It should be noted, however, that DOE is not considering reprocessing any of the surplus plutonium that is the subject of this SPD EIS. The proposed action is intended to permanently remove 50 t (55 tons) of plutonium from the U.S. weapons stockpile by converting that plutonium into proliferation-resistant forms. Reprocessing plutonium would not be consistent with that goal.

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

 **United States
Department
of Energy** *Comment Form*

NAME (Optional) Theodore Watanabe
ADDRESS: P O Box 2441 Idaho Falls ID 83401
TELEPHONE: (208) 523 5712
E-MAIL: _____

Presently weapons material of all type
are stored in secure locations.
The best option is maintain ^{the} status
QUD. 100 YEAR REEXAMINE the problem

1

IDD06

IDD06-1

Alternatives

DOE acknowledges the commentor's support of the No Action Alternative to surplus plutonium disposition, the details and environmental impacts of which are described in Section 4.2. DOE has determined, however, that no action (i.e., continued storage) would not satisfy the surplus plutonium disposition program goal: to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. Converting the surplus plutonium into MOX fuel and using it in domestic, commercial reactors is an effective way to accomplish this. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

