



July 11, 1997

U.S. Department of Energy  
Office of Fissile Materials Disposition  
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Subject: Surplus Plutonium

Dear Sirs:

The Department of Energy is beginning preparation of an environmental impact statement (EIS) to evaluate where disposition of up to 50 metric tons of surplus weapons plutonium should occur through (1) immobilization of some surplus plutonium in glass or ceramic and (2) disposition of some surplus plutonium in mixed-oxide fuel for existing reactors. Due to attributes of the infrastructure at the site, Hanford has a vested interest in this decision. The Hanford Advisory Board has developed advice for DOE relating to disposition of radioactive waste, which is also applicable to surplus plutonium (Attachment 1). The Board recognizes that a separate effort will be made to address disposition of additional plutonium not covered by this EIS, including commercial and other defense plutonium. The Board offers the following advice on issues to be evaluated in the new environmental impact statement on disposition of surplus plutonium:

1. Using the framework of the National Equity Dialogue, DOE should establish a clearly defined process that allows adequate time for discussion and public comment on the proposed locations for a) plutonium pit and metal conversion, b) mixed oxide fuel preparation, and c) vitrification and treatment, storage or disposition of other radioactive wastes.
2. To avoid piecemeal decision-making, U.S. DOE should establish a schedule and rationale for making location decisions for the disposition of plutonium and other related chemical and radioactive waste materials. The schedule for comment should be extended to at least September to allow adequate opportunity for public review and input.
3. Transportation logistics and security measures for intersite transfer of materials should be defined to include cumulative impacts and full assessment of health and safety risks.
4. Current and future linkages to international disposition of fissile materials, including impacts on schedule, location and/or technology, should be defined.
5. The environmental impact statement should identify how much waste would be generated by

conversion of the metal and pits and stabilization of the oxides, the characteristics of these wastes, and how and where they would be treated, stored and disposed.

6. Any disposition mission covered by this EIS must not negatively impact the Hanford cleanup budget or timetable. Specifically, analysis should include:
  - a. the impact of modifications required for the vitrification plants at Hanford and Savannah River to accommodate the surplus nuclear materials, and
  - b. any potential impacts of vitrification of the nuclear materials at Hanford on the privatization effort for the Tank Waste Remediation System.

We look forward to your response and to periodic progress updates on this matter.

Very truly yours,

Merilyn B. Reeves, Chair  
Hanford Advisory Board

Attachment

cc: Al Alm, DOE-HQ  
Chuck Clarke, Environmental Protection Agency  
Tom Fitzsimmons, Washington Department of Ecology  
Alice Murphy, Designated Federal Official  
The Oregon and Washington Congressional Delegations  
Randy Smith, Environmental Protection Agency  
Dan Silver, Washington Department of Ecology

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*This advice represents HAB consensus for this specific topic. It should not be taken out of context to extrapolate Board agreement on other subject matters.*

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## **ATTACHMENT 1**

### **BACKGROUND AND PREVIOUS HANFORD ADVISORY BOARD ADVICE ON DISPOSITION OF SURPLUS PLUTONIUM**

#### **The Issue**

- A legacy of weapons-usable plutonium remains in both the United States and the former Soviet Union from the Cold War.
- International efforts are underway to dispose of the surplus plutonium in both countries.
- On 3/1/95, the President declared 38 metric tons of plutonium surplus and DOE initiated efforts to determine its disposition
- The material to be addressed includes pits stored at the Pantex plant in Texas, metal at Savannah River, South Carolina, and oxides stored at Rocky Flats and Hanford.

- Hanford has about 4 metric tons of surplus plutonium as well as spent fuel that contains plutonium; about 40 percent of that stored at Hanford’s Plutonium Finishing Plant is part of the 38 metrics tons declared excess; much of the rest could be blended into the disposition stream, accelerating deactivation of the Plutonium Finishing Plant
- A Programmatic Environmental Impact Statement on Storage and Disposition of Weapons-Usable Fissile Materials led to a record of decision on 1/14/97:
  - No long-term storage of plutonium
  - Pursue dual strategy for (1) immobilization of some surplus plutonium in glass or ceramic and (2) disposition of some surplus plutonium in mixed-oxide fuel for existing reactors
- A new environmental impact statement is now being prepared to evaluate where the activities should occur. Alternatives being considered include:

	LOCATIONS UNDER CONSIDERATION			
ACTIVITY	HANFORD	IDAHO	SAVANNAH RIVER	PANTEX
Pit and metal conversion	X	X	X	X
Mixed oxide fuel preparation	X	X	X	
Vitrification	X		X	

**Related Values of the Hanford Advisory Board**

- Involve the public in future decisions about Hanford.
- Protect public and worker health and safety.
- Protect the environment.
- Do no harm during cleanup or with new development.
- Capture economic development opportunities locally.
- Get on with the cleanup to achieve substantive progress in a timely manner.
- Put wastes in an environmentally-safe form.
- Convene an independently facilitated inter-site stakeholder planning process to: cooperatively develop meaningful integrated public participation for the DOE’s proposed actions to ship, store, treat and/or dispose of all nuclear and hazardous wastes and nuclear materials under DOE purview, i.e. convene a National Dialogue on the disposition of nuclear materials.
- Minimize transportation of radioactive and hazardous materials to and from the site to reduce the risks to the public and the environment; evaluate decisions in light of how much and what materials will be used in the course of the cleanup because of potential consequences for communities along the transportation corridor.

**Previous Hanford Advisory Board Advice**

1. Advice #13, February 3, 1995, Criteria for Acceptance of Offsite Mixed Waste
  - Ongoing substantive compliance with WA Dangerous Waste laws and terms, conditions, permits, consent orders and cleanup agreements between DOE and the State
  - Existing facility capacity and availability of funding to handle processing and storage, while having a neutral or positive impact on Hanford cleanup
  - Written reciprocal agreement between WA, the state of origin, and DOE
  - Technical, economic, and equity concerns should be addressed.
  - Prolonged storage generally should not be approved.
  - No pretreatment storage unless approved in the written reciprocal agreement between the shipping and receiving states.

- Binding legal obligation by DOE for primary and secondary offsite storage facilities for post-treatment residuals. Generally, no residuals should be stored or disposed of at Hanford.
  - Sending site's treatment plan has thoroughly considered onsite treatment and pre-shipment storage.
  - Submission by shipping state of a schedule for shipment, treatment and post-treatment residuals management and prior written approval by Washington.
  - Careful planning of transport routes and consideration of weather emergencies to minimize the likelihood of an accident. Financial support from DOE to state, tribal, and local involvement for emergency preparedness, including adequate equipment and training. Timely notification of shipment to transportation agencies.
  - Cumulative impacts analyzed and considered in decisions concerning the movement and treatment of DOE mixed wastes. Full disclosure of all projected waste types and quantities as part of the PEIS and Draft Site Treatment Plan public comment/public participation process and of an interregional and intersite advisory board dialogue.
  - Provision for inspection and payment of appropriate permit fees to cover all state costs, including inspection of pre-shipping procedures.
  - Existing mixed waste facilities at Hanford must be in substantial compliance with TPA, other orders or agreements, and RCRA or state law requirements.
2. Advice #34, November 3, 1995, Waste Management Programmatic Environmental Impact Statement and Public Involvement
- Need to integrate into one public document and process the impact and alternative analyses for all wastes and nuclear material that may be treated, stored and disposed at Hanford and throughout the complex.
  - DOE should utilize an independently facilitated inter-site stakeholder planning process to cooperatively develop a meaningful integrated public participation process on the Department's proposed actions to ship for storage, treatment, or disposal of DOE's nuclear and hazardous wastes and nuclear materials.
3. Advice #38, December 8, 1995, Draft Waste Management Programmatic Environmental Impact Statement
- Reiterated criteria from Advice #13
  - DOE should develop an effective decision-making process to integrate those EISs dealing with waste storage, treatment, and disposal from DOE's facilities.
4. Advice #43, February 2, 1996, Opportunity for Public Involvement in Plutonium Disposition
- Though only one public hearing is required by law, the HAB feels that the opportunity for public education and comment is too limited for such an important issue.
  - Funding for these public hearings should not reduce the funding allocated for remediation activities.
  - We support the ongoing dialogue on improving public involvement opportunities regarding the disposition of the nation's nuclear materials.
5. Advice #46, May 3, 1996, Storage and Disposition of Excess Weapons Plutonium and Special Nuclear Materials
- Opposed to piecemeal approach to nuclear material storage and disposition.
  - Record of decision on the narrow choices in this EIS is premature pending the National Equity Dialogue.
  - Opposed to the borehole option at Hanford.
  - Any plutonium or special nuclear material storage or disposal program must be compatible and integrated with the TPA commitments and milestones and should not affect the rate or funding of cleanup. The program would have the safe disposition of Hanford plutonium as a priority.
  - Any plutonium program assigned to Hanford must be fully funded from new funding sources. This funding should include appropriate site infrastructure and overhead costs.

Funding should fully cover the cost of treatment, storage and disposal of any new waste streams.

- The acceptance of plutonium at Hanford should not delay, defer, or negatively impact Hanford cleanup.
- Appropriate local and regional public information and involvement programs must be conducted by the agencies to ensure that the public is fully informed of the risks, hazards and impacts of such a program. This would be part of the national dialogue on all nuclear materials prior to assignment of nuclear materials to a specific site.
- Any permit or plan approval for new Hanford programs/activities must be fully integrated and must comply with all State of Washington public health and safety rules and regulations.
- Equity impacts must be addressed in the assignment of new nuclear materials (including plutonium) to Hanford.
- The transportation of plutonium and special nuclear materials to Hanford storage will require careful planning of routes and consideration of weather emergencies to minimize the likelihood of an accident. Emergency preparedness for minimizing the impacts from an accident will require financial support from DOE for state, tribal, and local involvement, including adequate equipment and training. When materials are shipped, timely notification should be provided to transportation agencies.
- The choice of disposal options for plutonium will be a determinant for sites such as Hanford. Prior to the choice of a disposal option, complete characterization of the material and the impacts of short and long-term disposition technologies must be reviewed by the public and regulatory agencies.
- Acceptable processing techniques including waste processing must be developed as an integrated part of any new Hanford storage and disposal program. Permanent disposal of waste plutonium at Hanford is not acceptable.
- A "systems" analysis approach should be utilized to select the most effective method for processing and interim storage. This analysis should adequately address public and worker health and safety and environmental issues.
- If a plutonium disposition mission is assigned to Hanford, every effort should be made to use existing workforce, facilities, technologies, and other resources.
- This PEIS does not address cumulative impacts of nuclear material movement and disposition as required by NEPA.

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*For questions or comments, please send [email](mailto:Hanford_Advisory_Board@rl.gov) to Hanford\_Advisory\_Board@rl.gov*

*HAB Consensus Advice #74*

*Subject: Surplus Plutonium*

*Adopted: July 11, 1997*