

BLUE RIDGE ENVIRONMENTAL DEFENSE LEAGUE

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August 29, 2001

The Honorable Spencer Abraham, Secretary
U.S. Department of Energy
Forrestal Building
1000 Independence Avenue
Washington, DC 20037

Dear Secretary Abraham,

On behalf of the Blue Ridge Environmental Defense League (BREDL), I am requesting information regarding the Department of Energy's (DOE) program for long-term storage of plutonium and highly enriched uranium (HEU), and the related transportation of non-pit plutonium, at DOE's Savannah River Site (SRS). The basic reference documents for the questions being submitted are:

Interim Management of Nuclear Materials Final Environmental Impact Statement, (IMNM-EIS) DOE/EIS-0220, October 1995, with an amended Record of Decision issued in January 2001.

Storage and Disposition of Weapons-Usable Fissile Materials Final Environmental Impact Environmental Impact Statement, DOE/EIS-0229, December 1996, with Record of Decision issued January 1997. (S&D PEIS).

SUPPLEMENTAL ANALYSIS FOR STORING PLUTONIUM IN THE ACTINIDE PACKAGING AND STORAGE FACILITY AND BUILDING 105-K AT THE SAVANNAH RIVER SITE, **July 1998**. (SA), and associated S&D PEIS *Amended Record of Decision* of August 1998

Surplus Plutonium Disposition Final Environmental Impact Statement (SPDEIS).

Issues and Questions

Re: Long-term (up to 50 years) plutonium storage and stabilization capability at SRS.

There is no clear long-term storage and stabilization capability at SRS. Building 105-K was not modified or analyzed under NEPA for long-term storage, only for interim storage up about 10 years¹, which DOE considered "a conservative estimate of the time required for an immobilization facility to be designed and constructed to complete disposition of Rocky Flats and Hanford plutonium should DOE decide to construct that facility."²

¹ From WSRC-MS-99-00020, *Interim Storage of Plutonium in Existing Facilities*: "The Storage Life [KAMS facility] is projected to be ten years." From DNFSB *Staff Issue Report* of February 16, 2000: "This facility may eventually store several thousand containers for up to 10 years."

² SA, Page 17, Footnote 22

1. What is the status of funding for the 235-F facility upgrade or other APSF replacement?
2. What is DOE's plan for long-term storage at SRS if plutonium disposition is delayed or cancelled because of funding shortfalls and/or failure to implement the U.S./Russian plutonium agreement?
3. Since timely processing of plutonium processing into a diluted ceramic form (pucks for immobilization and/or plutonium/MOX fuel pellets, rods, and assemblies) disposition requires storage beyond 10 years, how will long-term storage of non-surplus plutonium be accomplished at SRS, and **how much non-surplus plutonium is planned for long-term storage?**³
4. Is 105-K still considered an interim storage facility pending disposition activities?

Re: Meeting the “not unless or until” criteria for plutonium shipments to SRS.

5. Which of the “not unless or until” conditions in the S&D PEIS does DOE believe it has met that allows it to begin shipments?
6. Does DOE believe that its use of the term “suspended” in describing plutonium immobilization meets the “not unless or until” criteria found in its NEPA documents for shipping plutonium from Rocky Flats to SRS?
7. How does DOE/SRS intend to achieve the 3013 standard for classified plutonium parts already shipped to SRS?
8. Since stabilization operations of Rocky Flats non-classified plutonium will likely be incomplete until after 2002, how firm is DOE's commitment to stabilizing and packaging Rocky Flats plutonium to the 3013 standard in Building 371 at Rocky Flats as a condition for shipment to SRS?

Re: Current status of estimated “cost savings.” Accelerated shipments of plutonium from RFETS to SRS were justified in the 1998 SA with DOE derived cost-savings estimates for early closure of RFETS. Now that it is unlikely that DOE can move plutonium from RFETS to SRS before September 30, 2002, the existing schedule is more similar to the one from January 1997--to begin shipments in 2001 from Rocky Flats and to defer shipments from other sites until disposition facilities are complete.

9. What was the original “cost-savings” estimate used by DOE as it pertained strictly to consolidated plutonium storage as compared to early site closure at RFETS, and what is today's cost-savings (if any) estimate? In what document is this analysis reported?
10. What are the estimated additional costs for prolonged storage of Rocky Flats plutonium at SRS if storage and disposition delays are considered?

³ DOE reported 2.1 MT of plutonium at SRS in 1996, of which 1.3 was “surplus,” leaving 0.8 MT as “national asset” plutonium. *Plutonium, the First Fifty Years*.

11. What is the existing timeframe for shipments from LANL, Hanford, and Pantex? What are the estimated additional costs for upgrading storage at these sites due to disposition facility delays?

12. What was the total cost for retrofitting the K-Reactor (105-K Building at SRS) compared to the estimated cost of proceeding with the APSF at SRS? How much did the retrofit cost, considering accelerated shipments used to justify 105-K storage never occurred?

Re: Amount of Rocky Flats plutonium scheduled for transfer to SRS and the associated number of shipments. Discrepancies exist in the reported amounts of plutonium now at Rocky Flats and scheduled for shipment to SRS, illustrated by the following examples:

- The 1998 SA cites “about 7.0 MT” of non-pit plutonium to be shipped from Rocky Flats to SRS, but does not break this figure down further.
- The SRS-Rocky Flats MOU of 1998 reported 4.4 MT of oxides and 4-6 MT of metals planned for shipment following stabilization activities.
- In 1998 WSRC estimated about 2500 containers of plutonium would end up at SRS,⁴ which could amount to as much as 10 MT of plutonium.⁵
- All revisions of the 94-1 Implementation plan cite 6.6 MT of metals in 3400 containers, although Rocky Flats reported 1600 metal items in the inventory in the 1998 SRS-Rocky Flats MOU. BREDL’s believes that oxide numbers are correct but questions the plutonium metal figures in the 94-1 reports. BREDL estimates that, unless pits shipped to PTX were part of the PTX inventory the RFETS Pu metal inventory in 1994 consisted of 1200 Pu metal items in war-reserve-like plutonium pits, 380 classified Pu metal items, about 80 Pu metal items in “not war-reserve-like” plutonium pits that were not transferred to PTX, the 1600 metal items cited in the 1998 MOU and another 140 Pu metal items transferred to LLNL or LANL for stabilization, weapons-stockpile work, or the ARIES program.
- In February 1998, Kaiser Hill wrote that if the K-Reactor was ready in January 2000, and shipments began at a rate of 4 trucks per month containing not less than 96 items (or about 24 items per truck) per month, and Rocky Flats expects to ship about 3,097 total containers (including 3013 cans and other containers), this would involve up to 32 months and 129 shipments. About 2/3 of these shipments would involve dispersible oxides.⁶

13. How much plutonium is DOE planning to ship from Rocky Flats to SRS for storage in 105-K?

- Is the “about 7.0 MT” of plutonium cited in the 1998 SA accurate?
- Is there about 3.2 MT of plutonium oxide and 3.8 MT of plutonium metal remaining to be shipped?
- How accurate is the estimate made above? Did the 1996 estimate of 12.9 MT (11.9 “surplus” MT) of plutonium at Rocky Flats include plutonium in pit form? In other words, were the 1200 plutonium pits shipped from Rocky Flats to Pantex between 1997 and 1999 (as well as the 60-66 pits

⁴ *K-Area Nuclear Material Storage Project Input Data and Compilation of APSF Inputs and Assumptions Related to Containers.*

⁵ Since 3013 containers can contain up to 5.0 KG of oxide, and 4.5 kg of metal, this would allow up to about 10.0 MT of plutonium in 2500 containers.

⁶ *February 1998 Kaiser Hill Letter to DOE-RFFO on Acceleration Strategy for Integrated Nuclear Material Disposition.*

shipped from SRS to Pantex in 1998) part of the Pantex inventory of 66.1 MT of plutonium? (This would have been most appropriate if DOE's claim of protecting information about mean plutonium mass per pit was legitimate.⁷)

Re: Storage of HEU from Rocky Flats: The June 1, 2001 DNFSB SRS weekly report stated that, "On May 10th, WSRC submitted to DOE a conceptual design for storage in KAMS of several hundred plutonium contaminated HEU parts that are now at Rocky Flats."

14. When did DOE decide to store HEU parts at SRS instead of Y-12? What NEPA documentation has been conducted to allow DOE to co-consolidate HEU at SRS and Y-12?

15. What are the plans for this HEU?

Regarding IAEA presence at SRS. There is 1 metric tonne of plutonium oxide currently stored in 300 shipping containers at RFETS that has been under International Atomic Energy Act safeguards.⁸ As of September 21, 1999 RFETS was not "planning on shipping the 1 MT of IAEA material currently under safeguards until August 2000," there was discussion with the IAEA on "verification vs. safeguards regime," and SRS was planning to have capability to "satisfy domestic safeguards and IAEA verification requirements" operational by June 2000.⁹

16. Is RFETS planning to ship this material?

17. What was the a final decision regarding IAEA verification vs. safeguards regime?

18. Is the 105-K storage area at SRS equipped to keep this material under IAEA verifications and/or IAEA safeguards?

19. What is the impact on negotiations with Russia to downgrade IAEA's role on monitoring U.S. plutonium?

We request a prompt response to these questions. Thank you for your attention to these matters.

Sincerely,

Don Moniak
Community Organizer/SRS Project Coordinator
Blue Ridge Environmental Defense League

⁷ The figure of 12.9 MT of RFETS plutonium minus the 3.0 MT of plutonium in residues minus the 7 metric tonnes of remaining oxides and metals cited in the SA leaves 3.0 MT of plutonium in pit form, or 2.5 kilograms/pit on average.

⁸ March 1998 *Memorandum of Understanding for the Stabilization, Packaging, and Shipping of Plutonium Metals and Oxides to Savannah River Site.*

⁹ : Minutes of the September 21, 1999 *Televideo on Accelerated Plutonium Shipments from Rocky Flats and Richland to Savannah River for Consolidated Storage*

cc: Office of Governor Jim Hodges, South Carolina