Department of Energy
Washington, DC 20585

MAY 19 1997

Mr. Carl J. Paperiello
Director
Nuclear Material Safety and Safeguards
Mail Stop TWFN 8D43
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Paperiello:

The U.S. Department of Energy is pleased to provide you with a copy of the Record of Decision on the Savannah River Site Waste Management Final Environmental Impact Statement, Savannah River Operations Office, Aiken, South Carolina (DOE/EIS-00217).

The Department is using a phased approach to making decisions on treatment, storage, and disposal facilities identified in the alternatives analyzed in the Waste Management Environmental Impact Statement. The Record of Decision published in the Federal Register (60 FR 55249) on October 30, 1995, identified decisions regarding continuation of existing activities and current operations of existing facilities, new waste recycling initiatives, operation of the Consolidated Incineration Facility, low-level waste volume reduction activities, and the operation of a mobile soil sort facility. Now that the Department and the State of South Carolina have completed negotiations under the Federal Facility Compliance Act of 1992, the Department is issuing this Record of Decision on the treatment and disposal of mixed low-level radioactive waste and transuranic waste.

This Record of Decision documents the Department's decision to configure its waste management system according to the moderate treatment configuration alternative. The Record of Decision also outlines the rationale behind the decision and the consequences of its implementation. All public comments received on the Savannah River Site Waste Management Draft Environmental Impact Statement were considered in the preparation of the Final Impact Statement and the Record of Decision.

The Department appreciates the interest and efforts of all who participated in the public involvement process. Any additional questions can be directed to the Savannah River Operations Office, NEPA Compliance Officer, U.S. Department of Energy, P.O. Box 5031, Aiken, South Carolina 29804-5031. Thank you for your continuing interest in the Savannah River Site.

Sincerely,

Mark W. Frei

Mark W. Frei
Acting Deputy Assistant Secretary
for Waste Management
Environmental Management

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Enclosure

[Billing Code 6450-01-P]

DEPARTMENT OF ENERGY

Supplemental Record of Decision; Savannah River Site Waste Management, Savannah River Operations Office, Aiken, South Carolina

AGENCY: U.S. Department of Energy (DOE)

ACTION: Supplemental Record of Decision

SUMMARY: DOE announces decisions concerning certain activities to be undertaken and facilities to be constructed and operated that further implement the Moderate Treatment Configuration Alternative for mixed low-level radioactive waste and transuranic waste. These decisions are based on the Savannah River Site (SRS) Waste Management Environmental Impact Statement (WMEIS) and are consistent with the completed negotiations between DOE and the State of South Carolina.

FOR FURTHER INFORMATION CONTACT: For further information regarding SRS waste management, write or call: A. R. Grainger, Engineering and Analysis Division, SR NEPA Compliance Officer, Savannah River Operations Office, P.O. Box 5031, Aiken, South Carolina 29804, Phone/FAX: (800) 242-8269, e-mail: nepa@barms036.b-r.com.

For general information on the U.S. Department of Energy National Environmental Policy Act (NEPA) process, write or call: Ms. Carol M. Borgstrom, Director, Office of NEPA Policy and Assistance (EH-42), U.S. Department of Energy, 1000 Independence Avenue, S.W., Washington, D.C. 20585-0119, telephone: (202) 586-4600, or leave a message at (800) 472-2756.

SUPPLEMENTARY INFORMATION:

Background

In July 1995, DOE issued the SRS WMEIS (DOE/EIS-0217) to evaluate the potential environmental impacts and costs of storing, treating, and/or disposing of certain wastes at SRS. In an October 1995 Record of Decision (ROD) (60 FR 55249, October 30, 1995), DOE announced its intention to implement the Moderate Treatment Configuration Alternative, including continuation of existing activities and operation of existing facilities, waste recycling, operation of the Consolidated Incineration Facility (CIF), low-level radioactive waste volume reduction, and operation of a mobile soil sort facility. The ROD also announced decisions regarding high- and low-level radioactive, hazardous, transuranic and alpha low-level radioactive wastes, and some mixed (radioactive and hazardous) wastes. DOE stated that it would issue additional RODs on mixed low-level radioactive waste and transuranic waste, including mixed transuranic waste, after completing negotiations with the State of South Carolina under the Federal Facility Compliance Act of 1992 (FFCAct).

This ROD supplements the October 1995 ROD by announcing DOE's decision to take

additional measures to further implement the Moderate Treatment Configuration Alternative for mixed low-level radioactive waste and transuranic waste. These decisions are based on the SRS WMEIS and are consistent with the completed negotiations between DOE and the State of South Carolina. DOE prepared this ROD pursuant to the regulations of the Council on Environmental Quality for implementing NEPA (Title 40 - Code of Federal Regulations (40 CFR Parts 1500-1580)) and DOE's NEPA Implementing Procedures (10 CFR Part 1021).

SRS occupies approximately 800 square kilometers (300 square miles) adjacent to the Savannah River, principally in Aiken and Barnwell counties of South Carolina, about 40 kilometers (25 miles) southeast of Augusta, Georgia, and about 32 kilometers (20 miles) south of Aiken, South Carolina. DOE's primary mission at SRS from the 1950s until the recent end of the Cold War was the production and processing of nuclear materials to support defense programs. The end of the Cold War has led to a reduction in the size of the United States nuclear arsenal. Many of the facilities that were used to manufacture, assemble, and maintain the arsenal are no longer needed. Some of these facilities can be converted to new uses through decontamination processes; others must be decommissioned. Wastes generated during the Cold War must be cleaned up in a safe and cost-effective manner. In addition, DOE must comply with applicable environmental requirements in managing wastes that may be generated in the future.

Mixed wastes are regulated under both the Atomic Energy Act and the Resource Conservation and Recovery Act (RCRA), as amended by the FFCAct. The FFCAct required DOE to prepare Site Treatment Plans (STP) that identified options for

treating mixed wastes currently in storage or that will be generated within the next five years at DOE sites, including SRS. For the SRS, DOE developed a STP that the State of South Carolina reviewed and subsequently approved on September 20, 1995. A Consent Order was executed between DOE and the State of South Carolina on September 29, 1995, specifying implementation requirements for the approved STP. Simultaneous with the development of the SRS STP, the SRS WMEIS evaluated the potential environmental impacts of STP-identified treatment options. Negotiations with the State of South Carolina under the FFCAct were an essential part of the decisionmaking process regarding mixed low-level radioactive waste and transuranic waste management.

This ROD deals, in part, with the characterization and treatment of certain mixed low-level radioactive waste. DOE is in the process of completing additional programmatic analyses concerning the treatment and disposal of mixed low-level radioactive waste at locations around the United States under the DOE Waste Management Programmatic Environmental Impact Statement, and has agreed to continue negotiations with potentially affected States. After such negotiations are completed and DOE has announced appropriate programmatic decisions, DOE may issue an additional SRS ROD(s) on the treatment and disposal of mixed low-level radioactive waste.

Alternatives Considered

In the SRS WMEIS, DOE analyzed three alternatives, in addition to the no action alternative, for managing mixed low-level radioactive waste and transuranic waste in a manner that would protect human health and the

environment, comply with regulatory requirements, and save money. The three treatment alternatives considered in the SRS WMEIS (limited, moderate, and extensive) addressed treatment, storage, or disposal facilities required for three forecasts of potential waste volumes (minimum, expected, and maximum).

The Moderate Treatment Configuration Alternative previously selected by DOE consists of the siting, construction, and operation of facilities and the implementation of management techniques to provide a balanced mix of technologies that include extensive treatment of those waste types that have the greatest potential to adversely affect the public or the environment, because of their mobility or toxicity if left untreated, or that would remain highly radioactive far into the future. This alternative provides less rigorous treatment than the Extensive Treatment Configuration Alternative of wastes that do not pose high potential for harm to humans or the environment or that will not remain highly radioactive far into the future. For each mixed waste stream, the STP identified treatment options and a preferred treatment. The Moderate Treatment Configuration Alternative includes the preferred treatments for mixed waste described in the approved STP and utilizes, to the maximum extent practicable, existing facilities.

Environmentally Preferable Alternative

In DOE's judgment, as identified in the October 1995 ROD, the Extensive Treatment Configuration Alternative is environmentally preferable because it would minimize potential long-term environmental impacts as a result of achieving more stable, migration-resistant waste forms. DOE recognizes,

however, that this treatment alternative would result in greater short-term impacts to workers.

Decision

Determination - To further implement the Moderate Treatment Configuration Alternative for mixed low-level radioactive waste and transuranic waste, DOE selects the following actions, which are the preferred options in the SRS STP and were not addressed in the October 1995 ROD:

- Send elemental mercury and other mercury-contaminated low-level radioactive waste offsite for treatment. Residuals will be returned to SRS.

- Vitrify two additional wastes, uranium chromium solutions and waste site soils (spill soils), in the M-Area Vendor Treatment Facility.

- Construct and operate a containment building for the characterization, certification, decontamination, shredding, and macroencapsulation of mixed low-level radioactive waste, including glass, metal, organic, inorganic, and heterogeneous debris, bulk equipment, and lead wastes.

- Construct and operate a transuranic waste characterization/certification facility to characterize, repackage, and certify alpha-contaminated low-level wastes and transuranic wastes.

Reasons for Determination

DOE has reviewed the SRS WMEIS and has determined that the information is current and the analyses remain valid. DOE previously selected the Moderate Treatment Configuration Alternative for SRS to provide adequate protection of human health and the environment, and to be consistent with expected budgetary limitations. These considerations also apply to the mixed waste characterization and treatment technologies under the Moderate Treatment Configuration Alternative. These technologies are consistent with the preferred treatments identified in the approved STP.

Environmental Impacts

DOE has determined that these mixed and transuranic waste decisions would have small impacts within the eight resource categories addressed in the SRS WMEIS (socioeconomic, groundwater, surface water, air, traffic, transportation, occupational health, and public health). These activities constitute only a portion of the activities whose potential impacts were considered under the Moderate Treatment Configuration Alternative, and the total impacts of the Alternative as a whole are expected to be small. Potential impacts on land use and ecological resources are expected to be small because any additional acreage required would be included within the current boundary of the area at SRS designated for waste management activities.

Mitigation

DOE believes that all practicable means to avoid and minimize environmental harm from the Moderate Treatment Configuration Alternative have already been adopted. If archaeological resources are found in the course of implementing the alternative, mitigation -- including avoiding the resources if possible -- will be conducted in consultation with the South Carolina State Historical Preservation Office.

Conclusion

DOE has selected certain actions for managing some mixed low-level radioactive waste and transuranic waste at SRS to further implement the Moderate Treatment Configuration Alternative. In making this decision, DOE considered beneficial and adverse environmental impacts, monetary costs, and regulatory commitments.

Issued in Washington, DC on May 09, 1997.

Alvin L. Alm

Assistant Secretary for Environmental Management