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Storage and Disposition of Weapons-Usable Fissile Materials Final Programmatic Environmental Impact Statement

# **Storage and Disposition of Weapons-Usable Fissile Materials Final Programmatic Environmental Impact Statement**

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[Federal Register: December 19, 1996 (Volume 61, Number 245)]

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DEPARTMENT OF ENERGY

Storage and Disposition of Weapons-Usable Fissile Materials Final Programmatic Environmental Impact Statement

AGENCY: Department of Energy.

ACTION: Notice of availability.

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SUMMARY: The Department of Energy (DOE) announces the availability of the Final Programmatic Environmental Impact Statement for the Storage and Disposition of Weapons-Usable Fissile Materials (S&D Final PEIS) (DOE/EIS-0229). In accordance with the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and the Department's NEPA Implementation

Procedures (10 CFR Part 1021), the Department has prepared the S&D PEIS to evaluate alternatives for the storage of weapons-usable fissile materials and the disposition of surplus plutonium.

DATES: A Record of Decision on the Storage and Disposition program will be issued no earlier than January 13, 1997. The Department will consider and reflect, as appropriate, in the Record of Decision any comments received before issuance of the Record of Decision.

ADDRESSES: To request copies of the S&D Final PEIS, copies of the Summary, technical reports or other information; or to provide comments on the S&D Final PEIS write to: United States Department of Energy, Office of Fissile Materials Disposition, P.O. Box 23786, Washington, DC 20026-3786. Written (Facsimile) and oral requests and comments can also be submitted using the toll free line at 1-800-820-5156. Facsimiles should be marked Storage and Disposition Final PEIS.

FOR FURTHER INFORMATION CONTACT: For information on DOE's National Environmental Policy Act process, please contact: Ms. Carol Borgstrom, Director, Office of NEPA Policy and Assistance (EH-42), U.S. Department of Energy, 1000 Independence Avenue, SW, Washington, D.C. 20585, 202-586-4600 or leave a message at 1-800-472-2756.

#### SUPPLEMENTARY INFORMATION:

#### Availability of the S&D Final PEIS

Copies of the S&D Final PEIS (over 4,000 pages in four volumes plus a summary) have been distributed to Federal, State, Indian tribal, and local officials; interested agencies; organizations; and individuals. The S&D Final PEIS summary is available, along with numerous other Fissile Materials Disposition Program documents on the program's Electronic Bulletin Board/World Wide Web Page (<http://web.fie.com/htdoc/fed/doe/fsl/pub/menu/any/>). Copies of the S&D Final PEIS, summary and supporting technical reports are available to the public at the DOE Reading Rooms listed at the end of this notice.

#### Background

On March 8, 1996, the Department published a Notice of Availability

(NOA) in the Federal Register (61 FR 9443) on the Storage and Disposition of Weapons-Usable Fissile Materials Draft Environmental Impact Statement for public review and comment. The NOA invited the public to comment on the draft PEIS during a 45 day comment period that was to end on May 7, 1996. Subsequently, in response to public requests, the Department announced in the Federal Register (61 FR 22038; May 13, 1996) an extension of the comment period until June 7, 1996. Public workshops on the draft PEIS were held in Denver, CO on March 26, 1996; Las Vegas, NV on March 28 and 29, 1996; Oak Ridge, TN on April 2, 1996; Richland, WA on April 11, 1996; Idaho Falls, ID on April 15, 1996; Washington, DC on April 17 and 18, 1996; Amarillo, TX on April 22 and 23, 1996; and North Augusta, SC on April 30, 1996.

#### Alternatives Considered

**Storage:** The S&D Final PEIS assesses the environmental impacts of four alternatives, and a No Action alternative, for the storage of weapons-usable fissile materials. The action alternatives are Upgrade at Multiple Sites alternative, Consolidate Storage of Plutonium alternative, Collocation of Plutonium and Highly Enriched Uranium alternative and a combination of the other alternatives. The S&D PEIS also analyzed sub-alternatives. The candidate sites for implementation of the alternatives are Hanford, Nevada Test Site, Idaho National Engineering Laboratory, Pantex Plant, Oak Ridge Reservation, and Savannah River Site. Each of the these alternatives, except for the No Action alternative, would phaseout the storage of weapons-usable fissile materials at the Rocky Flats Environmental Technology Site.

**Disposition:** The S&D Final PEIS assesses the environmental impacts of nine action alternatives in three categories and a No Action alternative for the disposition of up to 50 metric tons of plutonium that has been or in the future may be declared surplus to national security needs. The PEIS analyzed the Deep Borehole category (two alternatives--Direct Disposition and Immobilization); the Immobilization category (three alternatives--Vitrification, Ceramic Immobilization, and Electrometallurgical Treatment); and the Reactor category (four alternatives--Existing Light Water Reactors, Partially Completed Light Water Reactors, Evolutionary Light Water Reactors and CANDU Reactors) and the No Action alternative. The preferred alternative (a combination of the above alternatives) was also analyzed.

#### Preferred Alternative

The Department's preferred alternative is to reduce, over time, the

number of locations where plutonium and highly enriched uranium (HEU) are stored, and to pursue a disposition strategy that allows for immobilization of the surplus plutonium in glass or ceramic forms and use of surplus plutonium in mixed oxide (MOX) fuel at existing domestic reactors.

Regarding storage, the Department's preferred alternative involves:

- Phasing out storage of all weapons-usable plutonium at Rocky Flats Environmental Technology Site (RFETS) beginning in 1997; moving pits to Pantex, and moving Rocky Flats'

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separated and stabilized non-pit materials to Savannah River Site (SRS) when the expansion of the planned Actinide Packaging and Storage Facility (APSF) is complete.

- Upgrading storage facilities at Zone 12 South at Pantex to store those pits currently stored at Pantex, and pits from RFETS, pending disposition. Storage facilities at Zone 4 would continue to be used for these pits prior to completion of the upgrade.
- In accordance with the Preferred Alternative in the Final Programmatic Environmental Impact Statement for Stockpile Stewardship and Management (Stockpile Stewardship and Management PEIS), store Strategic Reserve pits at Pantex in the facilities discussed above. To the extent not reflected above, store Strategic Reserve materials in accordance with the Preferred Alternative in the Stockpile Stewardship and Management PEIS.
- Expanding the planned APSF at SRS to store those surplus, non-pit plutonium materials currently at SRS and surplus non-pit plutonium materials from RFETS, pending disposition.
- Continuing current storage of surplus plutonium at Hanford, Idaho National Engineering Laboratory (INEL) and Los Alamos National Laboratory pending disposition.
- Taking No Action at the Nevada Test Site (NTS).
- Upgrading of storage facilities at the Y-12 Plant at Oak Ridge Reservation to store non-surplus HEU and surplus HEU pending disposition.

Regarding surplus plutonium disposition, the Department's preferred alternative is to pursue a dual track strategy that allows for immobilization of plutonium in glass or ceramic forms and burning of the surplus plutonium as MOX fuel in existing reactors.

The Department would retain using MOX fuel in Canadian Deuterium Uranium (CANDU) reactors in Canada in the event that a multilateral agreement to use CANDU reactors is negotiated among Russia, Canada, and the United States. DOE would engage in a test and demonstration for CANDU MOX fuel as appropriate and consistent with future cooperative efforts with Russia and Canada.

The actual percentage and timing for disposition of the surplus plutonium using either or a combination of both of the technological approaches would depend on the results of international agreements, future technology development and demonstrations, site-specific environmental assessments, and detailed cost proposals to be completed within the next 2 years. The results of these efforts, as well as nonproliferation considerations and negotiations with Russia and other nations, will ultimately determine the timing and extent to which either or both technologies are deployed for disposition of surplus plutonium.

Deployment of this strategy would involve the implementation of supporting actions which include constructing and operating a plutonium vitrification or ceramic immobilization facility at either Hanford or SRS (including use of the ``can in canister'' approach utilizing the already operational Defense Waste Processing Facility at SRS); constructing and operating a facility at either of these same sites for conversion of non-pit plutonium materials (metal and oxides) to oxide forms for immobilization; constructing and operating a pit disassembly/conversion facility at Hanford, INEL, Pantex or SRS; and, constructing and operating a domestic, government-owned, MOX fuel fabrication facility at Hanford, INEL, Pantex, or SRS.

The fundamental purpose of the surplus plutonium disposition effort is to irreversibly ensure that plutonium produced for nuclear weapons and now declared excess to national security needs is never again used for nuclear weapons. Both disposition approaches can achieve this goal and preserve the long-time U.S. policy of not using civilian reactors to produce fissile materials for nuclear weapons. Burning of surplus plutonium in existing reactors would not involve subsequent reprocessing of the spent fuel. Each of these technologies would dispose of surplus weapons plutonium in a manner which would help assure it would not again be used in nuclear weapons.

DOE Public Reading Rooms

Copies of the S&D Final PEIS and summary as well as technical data reports and other supporting documents are available for public review at the following locations:

Department of Energy Headquarters

Freedom of Information Reading Room, Room 1E-190, Forrestal Building,  
1000 Independence Avenue, S.W., Washington, D.C. 20825, 202-586-6020  
Nevada Operations Office

U.S. Department of Energy, 2753 S. Highland Avenue, P.O. Box 98518, Las Vegas, Nevada 89193-8518, 702-295-1274

Oak Ridge Operations Office

Public Reading Room, 55 Jefferson Avenue, Oak Ridge, Tennessee 37830, 615-576-0887

Public Reading Room, 200 Administration Road, P.O. Box 2001, Oak Ridge, Tennessee 37831-8501

Rocky Flats Office

Front Range Community Reading Room, 3645 West 112th Avenue, Westminster, CO 80030, 303-469-4435

Amarillo Area Office

Reference Department, Lynn Library and Learning Center, Amarillo College, P.O. Box 447, Amarillo, TX 79178, 806-371-5400

U.S. Department of Energy Public Reading Room, Carson County Public Library, 401 Main Street, P.O. Box 339, Panhandle, Texas 79068, 806-537-3742

Richland Operations Office

Washington State University, Tri-Cities Branch Campus, 300 Sprout Road, Room 130 West, Richland, WA 99352, 509-376-8583

Albuquerque Operations Office

Technical Vocational Institute, 525 Buena Vista, SE, Albuquerque, NM 87106, 505-845-4370

National Atomic Museum Public Reading Room, Kirtland Air Force Base, Building 20358, Wyoming Boulevard, Albuquerque, New Mexico 87115, 505-845-6670/4378

Los Alamos Area Office

Community Reading Room, Museum Park Office Complex, 1450 Central Avenue, Suite 101, Los Alamos, New Mexico 87544, 505-665-2127 or 1-800-543-2342

Savannah River Operations Office

Gregg-Granite Library, University of South Carolina-Aiken, 171 University Parkway, Aiken, SC 29801, 803-725-1408  
Sandia National Laboratory/CA

Livermore Public Library, 1000 S. Livermore Avenue, Livermore, CA  
94550, 510-373-5500

Idaho Operations Office

Idaho Public Reading Room, 1776 Science Center Drive, Idaho Falls, ID  
83402, 208-526-0271

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Issued in Washington, DC, December 13, 1996.  
Gregory P. Rudy,

Acting Director, Office of Fissile Materials Disposition.  
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