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DEPARTMENT OF ENERGY

Amendment to the Record of Decision for the Department of Energy's Waste Management Program: Treatment and Storage of Transuranic Waste

AGENCY: Department of Energy

ACTION: Amendment to Record of Decision

SUMMARY: The Department of Energy (DOE), pursuant to DOE National Environmental Policy Act (NEPA) Regulations (10 CFR 1021.315), is amending the Record of Decision for the *Waste Management Program: Treatment and Storage of Transuranic Waste* issued on January 20, 1998 (63 FR 3629), and amended previously including on December 29, 2000 (65 FR 82985), and June 30, 2004 (69 FR 39446).

Under this amendment to its Record of Decision (ROD), DOE intends to send both contact-handled (CH) and remote-handled (RH) transuranic (TRU) waste from certain generator sites as needed to the Idaho National Laboratory (INL) to be treated and characterized prior to the shipment to the Waste Isolation Pilot Plant (WIPP) for disposal. These sites are: the Argonne National Laboratory (ANL) (Argonne, IL); Bettis Atomic Power Laboratory (BAPL) (West Mifflin, PA); General Electric Vallecitos Nuclear Center (GE) (Sunol, CA); the Hanford Site, (Hanford) (Richland, WA); Knolls Atomic Power Laboratory (Nuclear Fuel Services) (KAPL-NFS) (Erwin, TN); Knolls Atomic Power Laboratory (KAPL) (Schenectady, NY); Lawrence Berkeley National Laboratory (LBL) (Berkeley, CA); Lawrence Livermore National Laboratory (LLNL) (Livermore, CA); the Nevada Test Site (NTS); Separations Process Research Unit (SPRU) (Schenectady, NY); Paducah Gaseous Diffusion Plant (PGDP) (Paducah, KY); and Sandia National Laboratories (SNL) (Albuquerque, NM).

DOE expects that most of the waste from these generator sites will be sent to INL for treatment and characterization. However, DOE may, when feasible, characterize some waste at these generator sites under the provisions of the modified WIPP Hazardous Waste Facility Permit that allow characterization based solely on process knowledge and ship that waste directly to WIPP or, in the case of SNL, send TRU waste to Los Alamos National Laboratory to be characterized, in accordance with the original (1998) ROD. In addition, TRU waste from Babcock and Wilcox (BW) (Lynchburg, VA), and NRD L.L.C. (NRD) (Grand Island, NY), will also be moved to INL to be treated and characterized prior to shipment to WIPP for disposal, only if that waste meets waste acceptance criteria for treatment at INL and is determined to be defense waste as required by the WIPP Land Withdrawal Act for waste to be eligible for disposal at WIPP.

TRU waste would be accepted for treatment and characterization at INL only in accordance with the provisions of the settlement agreement in *Public Service Company of Colorado v. Batt* entered into between DOE and the State of Idaho in 1995 (the Idaho Settlement Agreement) and the Site Treatment Plan. The Idaho Settlement Agreement allows TRU waste from other DOE sites to be treated at INL if it is treated within 6 months of receipt and shipped out of Idaho within 6 months of treatment. DOE would also continue to remove TRU waste currently stored at INL in accordance with the terms of the Idaho Settlement Agreement.

In accordance with DOE NEPA regulations (10 CFR 1021.314), DOE prepared a supplement analysis (SA), *Supplement Analysis for the Treatment of Transuranic Waste at the Idaho National Laboratory (DOE/EIS-0200-SA-03),* to determine whether the proposed treatment and characterization of waste at INL prior to disposal at WIPP is a substantial change to the proposed action analyzed in DOE's *Waste Management Programmatic Environmental Impact Statement* (DOE/EIS-0200) (*WM-PEIS*) or whether there are significant new circumstances or information

relevant to environmental concerns such that a supplement to the *WM-PEIS* or a new EIS is needed. Based on the SA, DOE has determined that a supplement to the *WM-PEIS* or a new EIS is not needed.

FOR FURTHER INFORMATION CONTACT:

Copies of the documents referenced herein are available from the:

Center for Environmental Management Information
P.O. Box 23769
Washington, DC 20026-3769
Telephone: 1-800-736-3282 (in Washington, DC: 202-863-5084).

For further information on the treatment, characterization of TRU waste and disposal of TRU waste at WIPP, contact:

Casey Gadbury (CBFO)
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Carlsbad, NM 88221
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For further information on the DOE program for the management of TRU waste or this amendment to the ROD, contact:

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For information on DOE's NEPA process, contact:

Ms. Carol Borgstrom
Director, Office of NEPA Policy and Compliance (GC-20)
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585
Telephone: 202-586-4600, or leave a message at 1-800-472-2756.

SUPPLEMENTARY INFORMATION:

I. Background

TRU waste is waste that contains alpha particle-emitting radionuclides with atomic numbers greater than that of uranium (92) and half-lives greater than 20 years in concentrations greater than 100 nanocuries per gram. TRU waste is classified according to the radiation dose at a package surface. CH-TRU waste has a radiation dose rate at a package surface of 200 millirem per hour or less; this waste can safely be handled directly by personnel. RH-TRU waste has a radiation dose rate at a package surface greater than 200 millirem per hour and must be handled remotely (e.g., with machinery designed to shield workers from radiation). Mixed TRU waste contains both radioactive and hazardous components.

Prior NEPA Review:

In the *WM-PEIS* TRU Waste ROD (63 FR 3629, January 20, 1998), DOE selected the Decentralized Alternative, stating that "each of the Department's sites that currently has or will generate TRU waste will prepare and store its waste on site" prior to shipment to WIPP.[1] The *WM-PEIS* TRU Waste ROD also noted that "in the future, the Department may decide to ship transuranic wastes from sites where it may be impractical to prepare them for disposal to sites where DOE has or will have the necessary capability." The *WM-PEIS* TRU Waste ROD stated that the sites that could receive TRU waste shipments from other sites were the Idaho National Engineering and Environmental Laboratory (now referred to as the Idaho National Laboratory or

[1] The only exception to this decision was the Sandia National Laboratories in New Mexico, which would have shipped its TRU waste to Los Alamos for storage and processing before disposal at WIPP.

INL), the Oak Ridge Reservation, the Savannah River Site, and the Hanford Site, and that such decisions would be subject to appropriate review under NEPA. In DOE/EIS-0290, *Advanced Mixed Waste Treatment Project Final Environmental Impact Statement* (1999), DOE examined the impacts of treating up to 120,000 cubic meters of TRU from INL and other DOE sites at the Advanced Mixed Waste Treatment Facility (AMWTF).

II. Change in the Proposed Action

DOE has identified up to 8,764 cubic meters of CH-TRU waste and up to 255 cubic meters of RH-TRU waste, that could be moved from various TRU waste generator sites to INL for treatment and characterization prior to shipment to WIPP. At INL, the CH-TRU waste would be treated at the AMWTF to reduce the volume of the waste and characterized for shipment to WIPP. The RH-TRU waste would be treated during repackaging to remove prohibited items and characterized for shipment to WIPP at the Idaho Nuclear Technology and Engineering Center (INTEC), which is located on the INL site. Four sites (Hanford Site, INL, Oak Ridge Reservation, and the Savannah River Site) were identified in the 1998 ROD to potentially receive waste from other sites. INL has the capabilities to process this TRU waste.

Approximately 2,067 shipments of CH-TRU waste and 188 shipments of RH-TRU waste could move to INL for treatment and characterization. Shipment of TRU wastes to INL for treatment and characterization would increase the efficiency of TRU waste treatment and characterization operations.

Once treated and characterized, the off-site TRU wastes would be shipped from INL to WIPP for disposal. Approximately 795 shipments would be required to transport the treated CH-TRU

waste to WIPP and approximately 621[2] shipments would be required to transport the treated RH-TRU waste to WIPP.

III. Supplement Analysis

To determine whether the proposed action would warrant a supplement to the *WM-PEIS,* DOE prepared the SA referred to above. The SA compared the impacts of the proposed action to impacts of alternatives involving shipment of waste to INL for treatment that were examined in the *WM-PEIS* or in the *Waste Isolation Pilot Plant Disposal Phase Supplemental Environmental Impact Statement* (DOE/EIS-0026-S-2) (*SEIS-II*). [3]

The SA examined the impacts of transporting TRU waste to INL for treatment and characterization and the impacts of transporting waste from INL to WIPP for disposal. It also examined potential transportation accident impacts for waste proposed to be moved in the TRUPACT-III container, which is currently undergoing certification by the Nuclear Regulatory Commission, because some waste would be moved from Hanford to INL in the TRUPACT-III once it is certified. The transportation impacts of the proposed shipments of waste to INL and subsequent shipments of treated waste to WIPP, including accident impacts, were smaller than

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[2] The number of outbound RH-TRU shipments to WIPP would be larger than the number of inbound RH-TRU shipments to INL because waste is assumed to move to WIPP in RH 72-B casks, which hold a smaller volume of waste than the 10-160 B transportation containers that would be used primarily for transportation to INL. The WIPP RH waste handling process is designed to handle waste packaged in an RH 72-B without using the hot cell. Limitations on the amount of waste that can be handled in the hot cell in the WIPP hazardous waste facility RH waste permit will limit the use of the 10-160B for shipments to WIPP, since waste shipped in the 10-160B must be repackaged into a facility canister in the hot cell prior to disposal.

[3] The *SEIS-II* was used as a basis for comparison of transportation impacts because the *WM-PEIS* did not examine the impacts of shipping waste to WIPP for disposal. The *SEIS-II* was also used as a basis for comparison of WIPP site accident impacts because the *WM-PEIS* did not examine those impacts.

the impacts predicted in the *SEIS-II* for similar movements of waste to and from INL except for the latent cancer fatalities among workers.

Site impacts from packaging and loading waste at the generator sites, unloading waste at INL, and treating waste at INL, including the impacts of waste treatment accidents, were smaller than the impacts predicted in the *WM-PEIS* (Alternative 3) for similar activities.

WIPP site impacts, including the impact of potential accidents involving the standard large waste box (that would be transported in the TRUPACT-III once approved), would be equal to or smaller than the impacts predicted in the *SEIS-II* (Alternative 2B) for similar activities at WIPP.

The SA also considered the potential impacts of intentional destructive acts (i.e., acts of sabotage or terrorism) and estimated the impacts would be no greater than the impacts of an accident analyzed in the SA.

All of the impacts of the proposed action are within the boundaries of the impacts previously predicted in the Regionalized Alternative 3 of the *WM-PEIS* and the Action Alternative 2B of the *SEIS-II*, except for the worker transportation impacts. The increase in worker transportation impacts is small and is not expected to increase worker mortality if the proposed action were implemented. Based on the impact analysis in the SA, DOE has determined that the proposed action would not present a substantial change relevant to environmental concerns nor are there significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts. Therefore, DOE has determined that a supplement to the *WM-PEIS* or a new EIS is not required under 40 CFR 1502.9(c) or 10 CFR 1021.314 for this proposal. Both the *WM-PEIS* and the *WIPP SEIS-II* analyzed the impacts associated with shipment, treatment, and characterization of CH-TRU and RH-TRU wastes at INL. The WIPP

SEIS-II examined the impacts of shipping these wastes from INL to the WIPP for disposal. In addition, the impacts of treatment of CH-TRU at the AMTWF and RH-waste at the INTEC were evaluated using the same approach as used for the AMTWF EIS.

IV. Decision

DOE has decided to ship up to 8,764 cubic meters of CH-TRU waste and up to 255 cubic meters of RH-TRU waste as needed from ANL, BAPL, BW, GE, Hanford, KAPL-NFS, KAPL, LBL, LLNL, NRD, PGDP, NTS, SPRU and SNL, to INL for treatment and characterization prior to shipment to WIPP for disposal. After treatment and characterization at INL, all of the waste will be shipped to WIPP for disposal. The BW and NRD waste will be shipped to INL only if that waste is determined to meet waste acceptance criteria for treatment at INL and be defense waste eligible for disposal at WIPP, as required by the WIPP Land Withdrawal Act.

DOE may, where feasible, characterize some of this waste at the generator sites under the provisions of the WIPP permit allowing characterization based on process knowledge and ship that waste directly to WIPP or, in the case of SNL, ship the waste to Los Alamos National Laboratory for characterization, in accordance with the 1998 TRU Record of Decision.

Waste will be accepted for treatment and characterization at INL only if this can be done in accordance with the provisions of the Idaho Settlement Agreement and the Site Treatment Plan. The Idaho Settlement Agreement allows TRU waste from other DOE sites to be treated at INL if it is treated within 6 months of receipt and shipped out of Idaho within 6 months of treatment. DOE will also continue to remove TRU waste currently stored at INL in accordance with the terms of the Idaho Settlement Agreement.

V. Basis for the Decision

Using the existing INL CH- and RH-TRU waste program and facilities at INL will avoid the time and expense of establishing capability at sites that do not currently have an existing program or facilities. Also, the Advanced Mixed Waste Treatment Facility at INL will reduce the volume of some CH-TRU waste (e.g., waste which consists primarily of waste containers overpacked in larger containers that hold a relatively small volume of waste when compared with the container volume), thus reducing the volume of this waste that would be disposed of at WIPP.

Issued in Washington DC, this 27th day of, February, 2008

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for Environmental Management