

Regulatory Approval for Disposal of Waste in HUFP and Criticality Control Containers at WIPP

The following discussion is relative to the required regulatory approvals anticipated to allow for the disposal of Surplus Pu or other TRU wastes in the DOE Type B certified Hanford Unirradiated Fuel Package (HUFP) and Criticality Control Containers (CCC) at the WIPP facility. This discussion does not address any additional regulatory issues relative to suitability of the waste for WIPP receipt and disposal, required safety evaluations and potential changes to the existing safety documentation for WIPP, or to the NRC certification process for these containers.

The statute that governs disposal at WIPP is the Waste Isolation Pilot Plant Land Withdrawal Act as amended (Public Law [P.L.] 102-579) (LWA). This Act withdrew land from the public domain for the purpose of creating and operating WIPP, the geologic repository in New Mexico designated as the national disposal site for TRU waste generated by atomic energy defense activities. The Act defines the characteristics and amount of waste that will be disposed of at the facility and stipulates that TRU waste must be transported to WIPP in NRC-certified shipping containers. WIPP is certified by the Environmental Protection Agency (EPA) and permitted by the New Mexico Environment Department (NMED).

The WIPP LWA authorizes the EPA to issue regulations regarding the disposal of TRU radioactive waste at WIPP. The EPA regulations applicable to WIPP are specified in 40 CFR Part 191, "Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes." and in 40 CFR Part 194, "Criteria for the Certification and Re-Certification of the Waste Isolation Pilot Plant's Compliance with the 40 CFR Part 191 Disposal Regulations." The LWA requires the EPA to certify the WIPP's compliance with the long-term disposal regulations of 40 CFR Part 191, and also requires the DOE to submit a recertification application documenting WIPP's continued compliance with these regulations, on a five-year cycle until the decommissioning of the facility is completed. As part of continuing compliance, DOE is required to provide information on any planned or unplanned change in conditions or activities pertaining to the disposal system via a planned change notice or planned change request. Significant planned changes must be requested and cannot be implemented prior to the receipt of EPA approval. Change proposals include, as appropriate, an assessment of the impact of the change on the long-term performance of the repository. The EPA will determine whether the planned change request can be implemented or if the change requires a modification to the current certification. A modification to the certification requires EPA rulemaking which can take up to two years to complete.

Congress passed the Resource Conservation and Recovery Act (RCRA) in 1976 to establish requirements for the management of hazardous waste. Much of the waste that is disposed of at the WIPP is mixed waste, meaning that it contains both hazardous and radioactive components. Therefore, the WIPP must comply with RCRA to dispose of mixed waste. Under RCRA, which amended the Solid Waste Disposal Act of 1965, the EPA defines and identifies hazardous waste; establishes standards for its transportation, treatment, storage, and disposal; and requires permits for persons engaged in hazardous waste activities. Section 3006 of RCRA allows states to establish and administer these permit programs with EPA approval. The NMED is authorized by

the EPA to implement the hazardous waste program in New Mexico pursuant to the New Mexico Hazardous Waste Act (New Mexico Statutes Annotated [NMSA] §§74-4-1, et seq., 1978). The technical standards for hazardous waste treatment, storage, and disposal facilities in New Mexico are outlined in 20.4.1.500 New Mexico Administrative Code (NMAC), which adopts, by reference, 40 CFR Part 264, "Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities." The hazardous waste management permitting program is administered through 20.4.1.900 NMAC, which adopts, by reference, 40 CFR Part 270, "EPA Administered Permit Programs: The Hazardous Waste Permit Program." The NMED issued the initial WIPP HWFP on October 27, 1999, and it became effective November 26, 1999 for a 10-year term. The HWFP authorized the WIPP facility to receive, store, and dispose of CH TRU mixed waste. The NMED modified the HWFP on October 16, 2006, to also allow receipt, storage, and disposal of RH TRU mixed waste. The NMED issued the first renewal of the WIPP HWFP on November 30, 2010, to become effective on December 30, 2010.

A modification to the current HWFP will be required to handle and emplace waste in the HUFPP and CCC. Three classes of permit modifications are identified in the RCRA regulations. Class 1, the least significant of the permit modifications, covers minor modifications such as the correction of typographical errors, changes to conform with agency guidelines or regulations, or procedural changes. Class 1 modifications may require approval of the NMED prior to implementation, or may only require notification to NMED within seven days after the change has been made. Class 2 modifications are more extensive and significant and apply to changes needed to allow timely response to common variations in the types and quantities of wastes managed, technological advancements, and changes in the regulations. Class 2 modifications require submittal of a permit modification request to the NMED, which has up to 120 days to act on the modification request. Class 3 modifications are the most significant and potentially impactful and substantially alter the facility or its operation. Similar to a Class 2 modification, a Class 3 modification requires submittal of a permit modification request to the NMED, however for a Class 3 modification request there is no specified regulatory timeframe by which the agency must issue its decision.

DOE would prepare the required planned change requests and permit modification requests for shipping, receipt, handling, and emplacement of the HUFPP and CCC containers. Based on past WIPP experience regarding requests for the use of new shipping and waste containers, it is anticipated that these proposed changes will not significantly impact the facility or its operation, will not require an EPA rulemaking, and will be appropriately addressed in Class 2 modifications to the facility's HWFP.

The effort to develop and license the CCC is not dependent on a Record of Decision (ROD) for the Surplus Plutonium Disposition (SPD) EIS. DOE is already well along in the design process, and testing and submittal of a revision to the license for the TRUPACT-II (the shipping container that would be used for CCC) is planned to be completed in 2011, with an expectation of NRC approval in 2012. DOE would begin the approval process with NMED and EPA immediately upon receipt of the NRC license revision for the CCC, and expects approval prior to a ROD on the SPD EIS. Conversely, the effort to obtain an NRC license for the HUFPP is dependent on reaching a ROD to dispose of them at WIPP. If a ROD were reached to dispose of the HUFPP at WIPP, the process for identifying required facility modifications, and for preparation, submittal,

and agency action on the planned change/modification requests is estimated to take up to one year to complete.

Waste receipt, handling and emplacement of the CCC would be essentially identical to that employed at WIPP today for typical 55-gallon drums of contact handled TRU waste. In contrast, waste receipt, handling and emplacement of the HUFPP will be significantly different than other contact handled waste containers. In consideration of safeguards guidelines, special measures may be needed that will result in new handling equipment and emplacement methods. The fully loaded HUFPP will fit onto the WIPP waste hoist conveyance without modification, however specialized fixtures will likely be required for safe and secure operations. These handling equipment and emplacement modifications would be addressed in a Class 2 permit modification request to NMED and a planned change request to EPA during this one-year period.

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