



## WIPP TRANSURANIC WASTE INVENTORY

### How has the WIPP transuranic (TRU) waste inventory changed since the initial certification decision and the 2004 recertification decision?

As the U.S. Department of Energy (DOE) proceeds with the cleanup of its complexes across the nation and the disposal of waste in the Waste Isolation Pilot Plant (WIPP) repository, knowledge about the DOE's TRU waste inventory has improved significantly. At the time of the 1998 certification decision, no waste had been disposed of at WIPP. Therefore, the waste inventory was only an estimate of the waste DOE would emplace in the repository.

The 2004 Compliance Recertification Application (2004-CRA) used an updated inventory (Appendix Data, Attachment F) for the performance assessment (PA) calculations. The Environmental Protection Agency (EPA) requested a revised inventory during its completeness review and subsequently the 2004-Performance Assessment Baseline Calculation (2004-PABC) inventory was used to recertify WIPP.

The **primary** differences between the 1996 Compliance Certification Application (CCA) and the 2004 PABC inventories are as follows:

- The 2004-PABC inventory accounted for the Idaho National Laboratory (INL) process by which 55-gallon drums are compacted and placed into 100-gallon drums, and disregards those calculations related to the proposed waste incineration process that was described in the CCA. In addition, the INL inventory was revised to include buried waste identified for WIPP shipment.
- The 2004-PABC inventory includes approximately 8,400 m<sup>3</sup> (296,688 ft<sup>3</sup>) of stored Hanford tank waste that was added to the inventory in December 2002.
- The 2004-PABC inventory accounted for the deletion of several waste streams from Hanford Richland Operations inventory after the original CRA-2004 submittal.

For the 2009-CRA, the inventory is the same as used for the 2004-CRA PABC inventory. See CRA-2009, *Waste*

*Characterization* (40 CFR 194.24) for additional information on the inventory. The latest inventory can be found at: [http://www.wipp.energy.gov/library/Baseline2004/FY2008/DOE\\_TRU-2008-3425.htm](http://www.wipp.energy.gov/library/Baseline2004/FY2008/DOE_TRU-2008-3425.htm).

### Will all waste in the TRU waste inventory be emplaced at WIPP?

Because of possible changes in plans at various DOE sites, all the waste included in the TRU waste inventory may not be shipped to WIPP. It is also possible that EPA may not approve some waste for disposal at WIPP for regulatory reasons. In any case, before any waste is shipped or disposed at WIPP, EPA ensures that the waste meets the WIPP Waste Acceptance Criteria.

### Does the current WIPP waste inventory contain high-level waste (HLW)?

#### What is the transuranic waste inventory?

The TRU waste inventory describes the type, volume, chemical components, packaging materials, waste material parameters, and radioactivity that is potentially destined for WIPP and includes the waste that is actually emplaced. This information is used for the performance assessment (PA) calculations that in turn demonstrate compliance with EPA's disposal regulations.

Before the disposal of any waste at WIPP, EPA inspects the site that generated the waste to confirm that the DOE can measure and track the amount and content of radiological and physical components of the waste. Since 1998, EPA has conducted over 100 inspections at DOE waste generator sites.

EPA also inspects operations at the WIPP site annually. During annual inspections, EPA verifies tracking of TRU waste being shipped from other DOE sites, and confirms that WIPP continues to meet the waste limits established by EPA's regulations.

The WIPP Land Withdrawal Act explicitly states that HLW cannot be disposed at WIPP. Waste that does not meet all legal and technical requirements for disposal will not be emplaced in the WIPP repository. EPA continues to monitor the TRU waste inventory to ensure HLW does not go to WIPP.

**Can waste that is not in the inventory go to WIPP?**

The LWA and EPA have established criterion for determining which waste may be disposed of at WIPP. As DOE continues to characterize waste throughout its facilities, waste will continue to be identified for disposal at WIPP. TRU waste that is not included in the current waste inventory may still be allowed for disposal at WIPP, but only if **all** of the following conditions are met:

1. EPA determines that the waste characteristics meet the limits for WIPP disposal.
2. Waste characteristics are reflected in the performance assessment.

3. The waste meets all the criteria for acceptability at WIPP.

**EPA’s technical evaluation**

During the full technical evaluation of the 2009 CRA, EPA will focus on the following aspects of the updated TRU waste inventory:

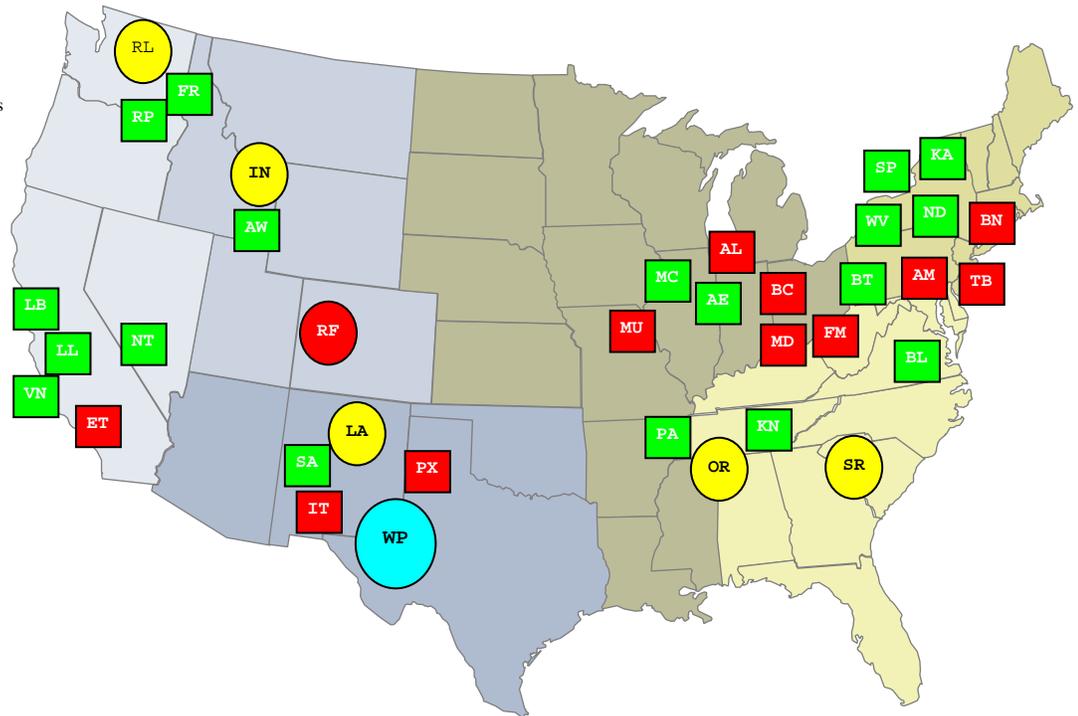
1. Examination of DOE’s process for gathering information about the waste inventory from the generator sites.
2. Verification that DOE appropriately followed its process for gathering and compiling the information about the waste inventory.
3. Ensuring that the information about the waste inventory is appropriately incorporated into the recertification performance assessment.

**Location of WIPP Generator Sites**

**Yellow – Large Quantity Site Green – Small Quantity Site Red – Sites that are De-inventoried**

**Legend**

- AE Argonne National Laboratory
- AL Ames Laboratory
- AM ARCO Medical Products
- AW Material and Fuels Complex
- BC Battelle Columbus Laboratories
- BL Babcock and Wilcox Nuclear Energy Services
- BN Brookhaven National Laboratory
- BT Bettis Atomic Power Laboratory
- ET Energy Technology Engineering Center
- FM Fernald Environmental Management Project
- FR Framatome (AREVA)
- IN Idaho National Laboratory
- IT Inhalation Toxicology Research Institute
- KA Knolls Atomic Power Laboratory
- KN Knolls Atomic Power Laboratory-NFS
- LA Los Alamos National Laboratory
- LB Lawrence Berkeley Laboratory
- LL Lawrence Livermore National Laboratory
- MC U.S. Army Materiel Command
- MD Mound Plant
- MU University of Missouri Research Reactor
- ND Nuclear Radiation Development Site, Inc.
- NT Nevada Test Site
- OR Oak Ridge National Laboratory
- PA Paducah Gaseous Diffusion Plant
- PX Pantex Plant
- RF Rocky Flats Environmental Technology Site
- RL Hanford Site (Richland Operations Office)
- RP Hanford Site (Office of River Protection)
- SA Sandia National Laboratories
- SP Separations Process Research Unit
- SR Savannah River Site
- TB Teledyne Brown Engineering
- VN General Electric Vallecitos Nuclear Center
- WV West Valley Demonstration Project
- WP Waste Isolation Pilot Plant



As of December 31, 2007, approximately 84,500 cubic meters (2.98 million cubic feet) of CH waste and about 2820 cubic meters (99,600 cubic feet) of RH waste at DOE sites across the country are awaiting disposal at WIPP. CH waste disposal commenced in March 1999. Between this time and the 2004 CRA approval, approximately 36,500 cubic meters (1.29 million cubic feet) had been emplaced. No RH waste was disposed at this time. As of the January 2009, the WIPP Waste Information System reports approximately 57,800 cubic meters (2.04 million cubic feet) of CH and 83 cubic meters (2,930 cubic feet) of RH waste had been emplaced at WIPP.