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Nevada Site Office Environmental Management

EM NEWS FLASH

A TRU Approach to Closure

The final chapter for legacy transuranic (TRU) waste at the Nevada Test Site (NTS) is drawing to a close after nearly 35 years. Since completing 48 shipments (1,860 drums) of legacy TRU waste from the NTS to **Waste Isolation Pilot Plant (WIPP)** near Carlsbad, NM, in November 2005, the Nevada Site Office has focused on preparing the remaining TRU waste in 58 oversized boxes for disposal.

The waste originated from Lawrence Livermore National Laboratory in California and has been managed at the NTS Area 5 Radioactive Waste Management Complex by the U.S. Department of Energy, National Nuclear Security Administration. In order to meet current shipping requirements and the waste acceptance criteria for disposal at WIPP, the contents of the oversized boxes are presently undergoing characterization and repackaging. This challenging task successfully began at the end of August 2008, after more than a year of extensive planning and preparations.

Before these activities could begin, detailed safety documentation, facility modifications, and worker protective measures had to be implemented. According to Gary Pyles, the acting TRU Waste Sub-Project Director, "It was critical to ensure the implementation of all the safety measures needed to see this activity into the final stages toward completion."

What is Transuranic Waste?

Transuranic waste contains man-made radioactive elements heavier than uranium, hence the name "trans" or "beyond" uranium. Most of the transuranic waste managed at the NTS was generated as part of a U.S. nuclear weapons research and development program at Lawrence Livermore National Laboratory near Oakland, California. This legacy waste, which was shipped to the NTS for temporary storage between 1974 and 1990, includes protective clothing and miscellaneous equipment contaminated with transuranic elements.



Workers in protective equipment remove a glovebox section after cutting open an oversized box.

Ensuring the safety of workers is paramount, especially considering that opening, characterizing, sorting, and repackaging the contents of the oversized boxes is conducted within a self-contained structure to prevent the free release of radionuclides. Workers must wear protective clothing and breathe supplied air while performing in this closed environment located inside the Visual Examination and Repackaging Building at the Area 5 Radioactive Waste Management Complex. Not only are these dedicated workers safely completing complex tasks while completely encased in safety gear which is connected to the air supply, they are operating at an accelerated pace of two six-hour shifts per day, six days per week.

[Click here to view a video of workers sorting and characterizing waste.](#)

Characterization and repackaging of more than half of the boxes are complete, with only a third of the volume characterized as TRU waste. Using a variety of technologies, the other two-thirds of the waste was determined to be low-level and mixed low-level which can be safely disposed on the NTS at a significant cost savings. It is expected that characterizing and repackaging the remaining boxes will be completed by the end of November 2008, and the TRU waste shipped off the NTS by December 31, 2008.

"This monumental achievement reflects the persistence, dedication, and hard work of federal staff, contractors, and stakeholders who have successfully propelled the first Nevada Site Office Environmental Management project toward closure," said Stephen Mellington, acting Manager for the Nevada Site Office.

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