

# Information Bulletin

## Managing Waste Material and Non-Waste Material

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April 23, 2007

2007-RL-HNF-0015

Tracking No: 516

### Summary:

In facilities where the disposition and disposal of nuclear/transuranic waste materials is the norm, care must be taken to understand the ramifications of non-waste material disposition and its potential impacts upon the facility safety basis.

### Discussion of Activities:

While preparing a shipment of OSU TRIGA Fuel Storage drums from Hanford's Solid Waste Storage and Disposal Low Level Waste Burial Grounds to the Canister Storage Building (CSB) and 200 Area Interim Storage Area (ISA) it was discovered that the supporting documentation for the CSB/ISA safety bases did not address the fission product inventory for its contribution to hydrogen generation and subsequently a hydrogen deflagration or explosion was not evaluated. A Potential Inadequacy in the Safety Analysis was determined.

### Analysis:

The Waste Retrieval Project requested a screening for hydrogen generation to determine if the containers would require venting upon retrieval. Waste Services performed the screening using a standard software program. The information provided by the Waste Retrieval Project focused on transuranics. The isotopic distribution sheet only indicated Plutonium and Americium, while the burial record contained a one-line note concerning mixed fission products. It is unclear whether the fission product information was reviewed because the focus was on transuranics. Based on the information provided, the hydrogen screen focused only on transuranics and did not consider mixed fission products. Prior to transportation another check was completed that recognized the potential inadequacy.

The drums containing spent fuel were received in 1987 and placed in retrievable storage with transuranic waste streams. The drums were some of the first non-waste material retrieved. Because they were managed under existing procedures for waste, limited information was provided related to mixed fission products in the containers. This allowed an inappropriate assumption to be made. It was also recognized that since other non-waste material is currently storage at SWSD facilities, a process needed to be put in place to address them when they are moved in the future.

### Recommended Actions:

For organizations which store materials that may be treated as product instead of waste, a process should be in place for handling transfer of material as product. The process should address the

elements to consider as well as including the involvement of Nuclear Safety, Operations, and Transportation.

**Cost Savings/Avoidance:** Not determined

**Work Function:** Nuclear Material; Material, Storage; Packaging and Transportation

**ISM Code:** Analyze the Hazards; Develop and Implement Hazard Controls

**Hazards:** Other

**Keywords:** Safety Basis; Hydrogen Generation; Waste Material; Non-Waste Material

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**References:** EM-RL--PHMC-CSB-2006-0002