

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 30, 2012

MEMORANDUM FOR: Timothy Dwyer, Technical Director
FROM: Jonathan Plaue, DNFSB Site Representative
SUBJECT: LLNL Activity Report for Week Ending November 30, 2012

Tritium Facility: On Monday, the laboratory contractor reported the results from field interrogation using x-ray fluorescence (XRF) spectroscopy of the flakes suspected to have emanated from the facility stacks (see weekly report dated November 23, 2012). The XRF data, obtained on November 21, indicate the presence of metals (e.g., titanium, zinc, and lead) consistent with white paint, which is the color of the stacks. In addition, the contractor reported that extra swipe surveys taken of the area around the facility were consistent with background measurements for tritium. No further analyses are currently planned on the flakes.

Also this week, the contractor determined that monitoring of stack emissions for tritiated particulate, in addition to the existing vapor phase monitoring, would be prudent and expedited a work package. During the weekend, workers plan to add removable filter cartridges to the existing stack sampling lines. A plan to analyze the filters and establish the ability to distinguish between any potential tritiated particulate and tritium that exchanged or adsorbed on the filter media from vapor phase effluent is in development. Installation of the filters is planned to occur concurrently with an electrical shut-down in the facility to bring a new transformer on line. This cutover will impact the ventilation fans and create a situation similar to the November 2 release of flakes. Consequently, facility management required an immediate visual monitoring of the stacks and hourly area surveys for flakes following restart of the fans.

Livermore Site Office (LSO) personnel initiated a detailed assessment of the event, which is expected to examine aspects of reporting and communications, initial response and evaluation, and any maintenance and material condition concerns revealed by this incident.

Nuclear Material Packaging: On Tuesday, the contractor provided an update to LSO on implementation of Department of Energy Manual 441.1-1, *Nuclear Material Packaging Manual*. Highlights include the following:

- The contractor received new SAVY containers and is continuing to update procedures and other implementation materials to facilitate their use; however, a date to prohibit legacy packaging configurations has not been established.
- The contractor issued an institutional requirement document for packaging and discussed the path forward for submission and LSO approval of the technical basis document. The path forward appears protracted due to delayed approval of the technical basis for the SAVY container at Los Alamos National Laboratory.
- LSO challenged the contractor to expedite the implementation schedule, which is currently projected for completion no later than September 2014.

Separately, LSO and the contractor have engaged the Waste Isolation Pilot Plant to determine acceptable alternative measures to facilitate direct disposal of the approximately 400 items of salt residues. These alternative measures would allow the salt items to be placed directly into pipe overpack containers without the need to open individually and video the contents, representing a significant improvement to worker safety and efficiency. Discussions are ongoing.