DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 18, 2024

TO: Timothy J. Dwyer, Technical Director
FROM: E. Freeman and D. Gutowski, Resident Inspectors
SUBJECT: Los Alamos Activity Report for the Week Ending October 18, 2024

Plutonium Facility–Material at Risk (MAR): Facility personnel are continuing efforts to reduce the amount of heat source plutonium fine powder MAR on the first floor to avoid exceeding the safety basis limit (see 10/11/2024 report). Personnel placed some items in credited containers and determined that some of the newly discovered holdup should be treated as oxide rather than as an unknown compound. In MAR calculations, analysts apply a multiplier to unknown materials to account for a more conservative biokinetic solubility class. Upon discovery of the holdup, personnel defaulted to a more conservative solubility class, but concluded that as it was associated with historical furnace operations so treating it as an oxide is more appropriate.

Plutonium Facility–Criticality Safety: Last week, criticality safety personnel issued a new technical basis document that evaluates 200 milliliters of water ingress into water resistant containers. This document was issued in response to questions regarding whether SAVY containers can still be considered water resistant containers in light of recent test data (see 10/4/2024 report). The report concludes that with 200 milliliters of water ingress, fissionable material may still be treated as dry for the purposes of criticality safety evaluations. This represents a fourfold increase from the current 50 milliliter ingress criterion for water resistant containers. Testing of SAVY lids to evaluate the impact of long term exposure to radiological materials on the filters is continuing.

Plutonium Facility and Radioactive Liquid Waste Treatment Facility (RLWTF): On Wednesday, facility personnel issued a standing order that provides guidance on actions to take when there is evidence of elevated tritium releases from the Plutonium Facility. This is a corrective action from two recent events where elevated tritium stack releases entered the building air intake, collected in the liquid effluent from the drying system, and then exceeded limits at RLWTF (see 10/20/2023, 5/31/2024 reports). The new shift order is entered when either elevated air emissions from the Plutonium Facility or elevated sample results in RLWTF feed are detected. In these situations, the order requires additional tritium sampling. If these sample results exceed a certain threshold, facility personnel must take actions to reduce discharges to RLWTF.

Safety Basis: Last Wednesday, the NNSA Field Office unconditionally approved Triad's revised Unreviewed Safety Question (USQ) procedure. The new revision provides additional categorical exclusion and additional flexibility in using categorical exclusions. The new exclusions are minor changes to integrated work documents and engineering design change packages that have already been evaluated under a negative USQ determination.

Transuranic Waste Management: Triad and Central Characterization Project personnel successfully completed a mobile loading shipment of transuranic waste from Technical Area 55 to the Waste Isolation Pilot Plant.