DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 20, 2016

TO: Steven Stokes, Technical Director
FROM: William Linzau and Rory Rauch, Site Representatives
SUBJECT: Oak Ridge Activity Report for Week Ending September 16, 2016

Transuranic (TRU) Waste Processing Center (TWPC): In April 2015, the DOE Accident Investigation Board completed its review of the radiological release event at the Waste Isolation Pilot Plant (WIPP) and determined that the release was caused by a mixture of organic material and nitrate salts inside a TRU waste drum. Based on this finding, DOE requested its field organizations review their local processes for handling nitrate-bearing TRU waste.

Last month, the DOE Office of Environment, Health, Safety and Security issued a memorandum that addresses the results of the field organization reviews and provides information clarifying the proper methods for evaluating potential hazards of nitrate wastes. The memorandum contains a list of common errors in evaluating the ignitability of this type of waste and communicates several conclusions (e.g., oxidizers should not be mixed with organic absorbents in future TRU waste packaging or remediation). TWPC North Wind personnel have indicated that a final path forward for addressing previously packaged nitrate-bearing waste streams will be based on the results of testing currently being conducted to determine the oxidizing properties of various classes of absorbent. Once the testing is completed, the results will be used to create a "Basis of Knowledge" document that, in turn, will support a path forward that meets the new WIPP waste acceptance criteria. TWPC has almost completed processing most of their contact-handled TRU waste but they plan to use an inorganic absorbent in the future if nitrate-bearing wastes are encountered.

Building 9212: Last week, CNS held a fact-finding meeting to evaluate opportunities to prevent recurrence of the events that resulted in a crack in a primary extraction (PX) column and approximately 20 L of spilled solution (see 9/2/16 report, note that the estimated amount of solution spilled was reduced during the fact-finding meeting). Personnel present at the fact-finding meeting were unable to determine the exact cause of the crack, but documented two theories that involved direct contact to the glass columns, either by a maintenance employee or supports tied to the scaffolding on which the employee stood. Chemical operators supporting the maintenance activity noted that they did not observe anything contact the column before it cracked. Maintenance personnel have requested that engineering personnel perform an evaluation of platforms or scaffolding installed near glass columns. Representatives at the fact-finding meeting also identified an action to issue a positive lessons learned regarding how the actions taken immediately following the spill (e.g., timely response by the chemical operators to isolate the spill) prevented personnel contamination and injury.

Conduct of Operations: This week, CNS approved a new enterprise-level procedure for the notification, reporting, recovery, and investigation of abnormal events. The CNS functional area owner believes the new procedure will streamline the previous Y-12 process by eliminating redundant elements of fact-finding meetings and critiques. Another new process feature is the addition of designated critique evaluators who must periodically observe critiques for overall quality and compliance with process requirements. The CNS functional area owner is in the process of training personnel on the new procedure and plans to implement it by the end of the month.