

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 1, 2016

TO: Steven Stokes, Technical Director  
FROM: William Linzau and Rory Rauch, Site Representatives  
SUBJECT: Oak Ridge Activity Report for Week Ending July 1, 2016

**Transuranic (TRU) Waste Processing Center (TWPC):** Last week, the site reps met with North Wind management and an OREM Facility Representative to receive a briefing on their plans to repackage highly contaminated soils retrieved during the deactivation of Tank W-1A. Starting in the 1950's, Tank W-1A was used to collect high radiation liquid waste from Buildings 3019 and 2026. During operations, the transfer line to the tank leaked resulting in the spread of contamination and a remediation project that removed the tank and collected the contaminated soil (see 5/18/12 report). During these remediation activities, 19 shielded boxes were filled with soils having elevated concentrations of TRU nuclides, which precluded these boxes from being disposed of as low level waste. North Wind has developed a process to repackage these soils in a configuration acceptable for final disposition.

North Wind plans to install equipment that will allow remote repacking of these soils in the Cask Processing Enclosure (CPE). The CPE is an enclosed structure inside TWPC's main processing building and has a HEPA ventilation system that supported a prior campaign to process remote-handled casks. The CPE also has a breathing air system to support personnel entry in supplied air suits. A gantry-mounted, remotely-operated excavator will be installed in the CPE and used to load the soil into a mixer. The soil will be transferred from the mixer to shielded drums utilizing an auger assembly. North Wind is preparing to modify the CPE and is working on a revision to the safety basis to address this work activity. The processing of these soils is scheduled to start early next calendar year.

**Building 9212:** CNS submitted a revision to the Justification for Continued Operations (JCO) for the Building 9212 Wet Vacuum System (WVS, see 5/13/16 report). The original JCO addressed an Unreviewed Safety Question associated with inaccuracies in calculations that provide assurance that WVS isolation traps will prevent fissile solutions from being transported to uncontrolled geometries. The original JCO addressed about half of the system's traps and this revision addresses the remaining traps. The traps addressed in this revision are in process lines with flowrates that would fill the traps to greater than half full before flow could be stopped by the WVS automatic isolation valve. For several of these traps, calculations indicated that a small amount of solution could carry over to downstream piping. The JCO provides that the existing systems are safe without modification as the calculations indicate the amount of carryover is less than 700g U-235, which is less than the single-parameter, subcritical mass limit. The JCO also notes there is an existing specific administrative control that requires a check of the downstream header to ensure the absence of fissile solutions whenever a trap fills to more than half full. In addition, there are traps upstream and downstream of the credited traps that provide additional assurance that solutions will not be transported to uncontrolled geometries. Currently, the process lines addressed in this revision remain isolated as NPO completes its review of the JCO.

**Work Planning and Control (WP&C):** CNS Y-12 Infrastructure management announced that it has been more than a year since their last lockout/tagout (LO/TO)-related event. During the last year, the Infrastructure organization worked to improve human performance during application of the LO/TO processes. Their actions included routine crew briefings, lessons learned sessions, and specific training that emphasized strict adherence to LO/TO program requirements (see 12/25/15 and 2/26/16 reports).