

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

TO: Timothy Dwyer, Technical Director
FROM: Wayne Andrews and David Kupferer, Site Representatives
SUBJECT: Oak Ridge Activity Report for Week Ending September 10, 2010

Transuranic Waste Processing Center (TWPC) – Drum Venting Operations. Five weeks ago, DOE completed its Operational Readiness Review for drum venting system operations (see the 8/6/10 and 7/23/10 site representatives' report). The scope of the drum venting operations includes installation of a vent followed by installation of a sample port. Although Wastren Advantage is the management and operating contractor for TWPC, the Central Characterization Project (CCP) is responsible for the equipment, procedures, and operators associated with the drum venting system (see the 1/15/10 site representatives' report).

On Wednesday, the site representatives observed first use of the drum venting system. After CCP operators had installed the drum vent, the procedure directs operators to open the 'survey access door' of the drum venting system and rotate the waste container to facilitate installation of the sample port. Due to mechanical interferences between the drum locking ring and alignment bars on the interior of the drum venting system, the CCP operator was unable to rotate the drum as necessary. In violation of the procedure, the operator then opened the 'drum containment cabinet door' (a larger door through which drums are loaded into the drum venting system) to try and troubleshoot the problem. A Wastren Advantage employee that was part of the supervisory oversight team for first use operations identified the procedure violation. CCP suspended operations and has developed and executed a recovery plan. CCP is planning to conduct a conduct of operations review at TWPC next week.

Electrical Power Outage. Last Monday evening, a bird flew into a capacitor bank and tripped two 13.8 kV breakers resulting in the loss of normal power to several facilities including Buildings 9204-2E, 9212, 9215, and 9720-82.

The loss of normal power to the Highly Enriched Uranium Materials Facility (Building 9720-82) resulted in activation of the Secondary Confinement System (see the 3/5/10 site representatives' report). The system operated as expected including actuation of two exhaust fans. The variable frequency drive mode for the exhaust fans is still disconnected (i.e., the fans always run in the variable inlet vane mode). B&W has revised the Documented Safety Analysis to state that the programmable logic controller (PLC) will automatically transfer control of the exhaust fans to the variable inlet vane mode in the event of a loss of normal power. B&W has not yet reprogrammed the PLC to perform this function but still plans to do so.

Safety Analysis Research. On Tuesday, the Board staff and site representatives participated in a teleconference with B&W and YSO regarding B&W's test plan for obtaining data on bounding airborne release fraction (ARF) and respirable fraction (RF) values of uranium metal in a fire environment (see the 3/5/10, 4/2/10, and 6/11/10 site representatives' reports). One key aspect of the discussion was the potential benefits associated with independent organizations performing a comprehensive peer review of the test plan. B&W is planning to arrange for academia, government, and industry experts to perform this independent peer review. Staff also discussed the importance of measurement accuracy to the success of the initiative including measurement of reaction product mass, sample temperature ranges, and air flow and flame impingement characteristics. Overall, it was a constructive exchange of information.