

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 13, 2009

TO: Timothy Dwyer, Technical Director
FROM: Donald Owen and David Kupferer, Oak Ridge Site Representatives
SUBJECT: Activity Report for Week Ending November 13, 2009

Highly Enriched Uranium Materials Facility. On Monday, YSO began its Readiness Verification Review to evaluate and recommend to the Site Office Manager whether to begin the NNSA Operational Readiness Review (ORR), which is scheduled to start December 7th. On Thursday, B&W issued the final report of the B&W ORR. Prior to the start of the NNSA ORR, B&W is planning to issue approved corrective action plans to address the 5 pre-start findings, 3 post-start findings and 13 weaknesses that were identified by the B&W ORR team.

Transuranic Waste Processing Center (TWPC). As reported on October 30th, following discussion with DOE-ORO, EnergX declared a Potential Inadequacy in the Safety Analysis (PISA) after power was unexpectedly lost to the safety-significant ventilation system in the main building during post-maintenance testing of a programmable logic controller (PLC). EnergX declared the PISA on the basis that the description of the PLC in the TWPC safety basis is potentially inadequate. The PLC is not designated as safety-significant.

As part of their evaluation, DOE-ORO personnel noted to the site reps. that prior to 2004, the PLC provided system status information and no ventilation system control function was (or is presently) described in the TWPC safety basis. EnergX has modified the PLC twice since the TWPC safety basis was first approved. In 2004, EnergX modified the PLC to shutdown the safety-significant supply fans in the main building if the air flow through the exhaust fans dropped below the threshold specified in the applicable Technical Safety Requirements. On October 9th, EnergX had modified the PLC to control a damper to the hot cell when a PLC fault occurred, which led to the ventilation system power loss. EnergX performed Unreviewed Safety Question Determinations (USQDs) associated with both these PLC modifications, which were negative. EnergX is finalizing an additional USQD that will address the PISA.

Freeze Protection Program. In response to prior freeze protection problems that impacted credited fire suppression systems, B&W issued a revision to its Freeze Protection Program (see the 7/24/09 site rep. report). The revision included a requirement for facility management to develop the following two documents: (1) facility-specific checklists to periodically identify potential vulnerabilities to freezing weather (e.g., inadequate piping insulation) and (2) severe cold weather plans that identify specific actions to be taken when ambient air temperature falls below 25 degrees Fahrenheit (e.g., turn on electric heaters). This week, the site rep. verified that the primary nuclear facilities at Y-12 (Buildings 9204-2E, 9212, 9215, and 9720-5) have developed these documents and have recently completed facility-specific checklists to identify potentially vulnerable systems. In completing these checklists, nuclear facility personnel identified numerous repairs that need to be made to improve the freeze protection posture of their facilities. B&W management has actively engaged in preparing for the upcoming winter by holding weekly meetings to plan and prioritize maintenance activities related to freezing weather vulnerabilities and by conducting a management self-assessment to evaluate whether facility management is sufficiently prepared for freezing weather.