

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 8, 2010

TO: Timothy Dwyer, Technical Director
FROM: Donald Owen and David Kupferer, Oak Ridge Site Representatives
SUBJECT: Activity Report for Week Ending January 8, 2010

Highly Enriched Uranium Materials Facility (HEUMF). YSO and B&W continue to address the pre-start findings identified by the NNSA Operational Readiness Review (ORR, see the 12/18/09 site rep. report). YSO plans to request startup authorization from NNSA Headquarters during the week of January 18th.

B&W line management used a Readiness Certification Assurance (RCA) process to validate its readiness efforts in HEUMF. The RCA process prompted development of more than 450 affirmation criteria based on the requirements and prerequisites from the ORR Plan-of-Action (see the 6/5/09 and 10/16/09 site rep. reports). Senior line managers were required to present evidence that each affirmation criteria had been met to an RCA Board of upper-level managers, which prompted identification and correction of more than 1,000 readiness issues. YSO recently completed an assessment of B&W's RCA process. YSO tracked and validated 220 of the affirmation criteria. YSO's assessment report indicates that the benefit of the RCA process warrants a documented lessons-learned for other DOE projects regarding line management readiness efforts.

Casting Operations. On Wednesday, B&W issued a Standing Order placing a hold on operations in three of the casting furnaces due to discovery of an unexpected difference in water cooling piping for the power supply bus bar. Specifically, the difference involves the small-diameter water cooling piping unexpectedly penetrating and running through, at right angles, the air cooling line to the electrical induction element. In other casting furnaces, the bus bar water cooling piping does not penetrate the air cooling line. While the affected piping and cooling line is outside the furnace, B&W personnel noted to the site rep. that a failure of the water cooling pipe at the penetration could allow water into the tubular channel of the air cooling line and into the furnace. B&W considers that the condition does not represent a Potential Inadequacy in the Safety Analysis as water intrusion into the furnace has been previously addressed in the safety analysis; however, B&W personnel indicated the Standing Order will remain until B&W addresses this condition in the nuclear criticality safety evaluation.

Building 9201-5 Fire Protection. On Monday, B&W personnel were investigating water leaks from a small building adjacent to the Annex of 9201-5/5E. When facility personnel accessed the small building (highly contaminated with beryllium) they noted what they believed to be a missing three-foot section of overhead piping from the safety-significant fire suppression system. Facility personnel shut-off the water supply to the fire suppression system and entered the applicable Limiting Condition of Operation. On Tuesday, the site rep. observed facility personnel enter the building to locate the section of missing pipe and gather more information regarding the cause of the leaks. Upon opening a different door (than Monday) to the building, facility personnel observed several significant leaks in a coolant water system for an out-of-service heat exchanger. B&W subsequently shut-off the supply of coolant water (separate from the fire suppression water supply). B&W now believes that the three-foot section of pipe had been removed long ago and the remaining piping capped. B&W is gathering additional information regarding configuration management of this safety-significant system and is planning to convene a critique next week.