

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

TO: Steven Stokes, Acting Technical Director
FROM: William Linzau and Rory Rauch, Site Representatives
SUBJECT: Oak Ridge Activity Report for Week Ending February 22, 2013

Building 9212: B&W is evaluating the integrity of certain heat exchangers (H/Xs) that are part of the tower water cooling system for Building 9212. Earlier this month, B&W held a critique for an event in which relief valves were lifted by a pressure transient while refilling the system (see 2/8/13 report). Since the critique, B&W has been working to evaluate if the pressure transient could have damaged the H/Xs in a way that would allow fissile material-bearing process liquids to flow into the tower water system. As part of the evaluation process, engineering personnel selected three H/Xs to pressure test. These H/Xs were selected because they were determined to be more susceptible to damage from a pressure transient. During the testing, none of the three H/Xs showed signs of damage in that they held pressure steadily for an hour when filled with argon gas. To prevent recurrence of the pressure transient, a new work instruction was written to better control the system refill and restart.

This week, B&W held another fact-finding meeting associated with the Nuclear Facility Risk Reduction project work to replace the tower water cooling system in Building 9212. Following a recent configuration management issue associated with this work (see 2/1/13 report), B&W management completed additional independent reviews of work packages to ensure that any similar problems are identified before work is performed. During one such review, personnel discovered that plans to introduce a piping penetration in a wall had not received all required reviews. This wall is graded for a more rigorous level of configuration control that requires a structural evaluation prior to introducing any penetrations. B&W management has commenced an extent of condition review of all work being accomplished under the Nuclear Facility Risk Reduction project, including all tower water system work.

Pressurized Drums: Workers observed a bulging drum in Building 9204-2E last week. In accordance with site procedures, the shift manager has restricted personnel access to the area surrounding the drum and the drum is being monitored once per shift for any noticeable changes in appearance. Earlier this week, workers attempted to vent the drum three times using a non-sparking puncture device attached to a forklift. The attempts were unsuccessful. B&W plans to reattempt to vent the drum next week using a device that is set to puncture at a faster rate. This unvented drum contains depleted uranium turnings in water, which will react to evolve hydrogen gas. B&W management plans to re-evaluate the storage practices for these types of materials.

Last week, the Plant Shift Superintendent initiated emergency work in Building 9720-5 to vent two bulging drums that had noticeably changed appearance within the span of one week. The drums were successfully vented in accordance with site procedures and returned to their originating facility (Building 9204-2E) for an evaluation of the source of the pressurization.

Readiness Assessment: Last week, B&W conducted a readiness assessment (RA) for the start-up of new product certification ovens in Building 9204-2E. The design and operation of the new ovens are essentially the same as the ovens currently in operation. One key design difference with the new ovens is the presence of a thermal melt link, which is credited in the Building 9204-2E safety analysis report as a safety-significant control to prevent overheating of the contents of the oven. The RA team did not have any findings and operation of the ovens started this week.