

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 25, 2010

TO: Timothy Dwyer, Technical Director  
FROM: Donald Owen and David Kupferer, Oak Ridge Site Representatives  
SUBJECT: Activity Report for Week Ending June 25, 2010

**Nuclear Criticality Safety (NCS)/Feedback and Improvement.** On Thursday, Y-12 held their quarterly senior management meeting on the NCS program. B&W has been developing an NCS program improvement plan (see the 4/9/10 site rep. report). The plan has been issued and major efforts under the plan include the following: developing more proactive communications and interactions with operations personnel; simplifying/standardizing NCS limits, postings, and labels; improving the quality of NCS analyses; and ensuring adequate on-the-floor time for NCS engineers. NCS personnel plan benchmarking visits to LANL and LLNL to aid in these efforts.

During the meeting, B&W discussed a violation of a criticality safety mass limit in loading a shipping container in the Special Processing area of Building 9212 that occurred in mid-May (10.5 kg uranium-235 loaded in violation of a 9.7 kg limit). YSO senior management was not aware of the event. An Initial Event Information report was written but not issued and B&W did not call for a formal critique. B&W management noted that evaluation of the event is now in progress.

**Fire Water Supply/Building 9212.** The Potable Water System (PWS) feeds all of the fire suppression systems at Y-12 including several that are classified as safety-significant or safety-class (see the 12/24/09 and 3/14/08 site rep. reports). This week, B&W put two new potable water supply tanks in service, which increased the pressure of the PWS by 22 psi.

Recently, to support maintenance in Building 9995, B&W isolated the water supply by closing two underground valves in a loop of the PWS that encircles Buildings 9995 and 9212. None of the underground valves in the PWS are labeled. While conducting this isolation activity, maintenance personnel closed an incorrect valve (the access cover for the correct valve had been paved over). Because two other valves in the subject water supply loop had been shut (one for the PWS upgrade and one errantly left closed after a maintenance job more than a year ago), closing this incorrect valve resulted in a loss of water supply to portions of Building 9212.

Building 9212 personnel were unaware of the ongoing isolation activity. Building 9212 personnel notified the Shift Manager of an observed loss of water pressure. The Shift Manager directed checking pressure gauges associated with the nine safety-related fire suppression systems. The gauges on four of these systems read 0 psig. B&W performed a critique and identified several actions including (1) verify proper valve alignment for Building 9212 and (2) evaluate the possibility of labeling the valves in the PWS. The site reps. consider, however, that broader actions regarding configuration management of the PWS may be warranted.

**Dismantlement Operations – Small Fire.** A small fire occurred during a routine dismantlement operation in which personnel were using a hammer and chisel to disassemble a component in a ventilated hood. Sparks from a chip ignited a solvent-laden cloth that operators had left on the other end of the work table that was then extinguished. The front section of the procedure contains 102 precautions and limitations. The 70<sup>th</sup> item states that when performing spark-producing work personnel are to "... ensure that all transient combustibles...are shielded by a fire-resistive cover or placed in a close fire-resistive container." B&W is evaluating this specific procedure to reduce the number of up-front limitations and precautions. The site reps. consider that a broader review of procedures may be warranted to determine whether other up-front precautions and limitations should be more appropriately included in the body of the procedure.