

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 28, 2009

TO: Timothy Dwyer, Technical Director
FROM: Donald Owen and David Kupferer, Oak Ridge Site Representatives
SUBJECT: Activity Report for Week Ending August 28, 2009

Staff members Elliott, Minnema, and Abrefah visited Y-12 to discuss criticality safety.

Conduct of Operations/Criticality Safety/Feedback and Improvement. Recent events including those discussed below indicate a lack of rigor in adhering to and enforcing criticality safety and procedural requirements.

In Building 9212 late last week, a B&W Criticality Safety Officer discovered multiple violations of criticality safety requirements involving the storage of sample materials. The specific violations included the following: (1) sample bottles were stacked above the height of the front ledge of the shelf in violation of the posted requirement to not allow such stacking, (2) three 8-ounce sample bottles were stored in a vault in violation of the posted limit of two 8-ounce sample bottles, and (3) dry materials were stored in larger sample bottles than allowed by facility requirements. B&W conducted a briefing with Building 9212 personnel to reinforce criticality safety storage requirements for sample bottles. This is the third occasion during the past few months in which criticality safety personnel discovered storage configurations that violated criticality safety postings (see the 5/1/09, 6/26/09 and 7/24/09 site rep. reports).

This week, B&W production personnel violated a procedural criticality safety requirement in Building 9212 while packaging three bag filters that had been damaged and replaced. The bag filter replacement operation is performed sporadically and infrequently (less than once a year). The governing procedure provides specific criticality safety requirements and steps for the operators to cut the bag filters in half, seal each half-filter separately in plastic bags, and place both half-filters into one 55-gallon drum. The procedure limits drum loading to one bag filter per drum. Contrary to the procedure, operations personnel who were placing the cut filters into drums apparently believed that the filters were cut into quarters and placed four of the sealed bags (two filters) into a single drum. Upon discovering that each sealed bag contained a half-filter, operators immediately communicated the criticality safety violation to the shift manager.

During the critique of the violation, B&W focused primarily on the miscommunication that apparently occurred between the operators who cut the filters into halves and the operators that seemed unfamiliar with the details in the procedure. The critique participants did not discuss the specific steps of the bag filter replacement procedure to determine what the procedure required to be done versus what actually happened. Such fact-finding is called for by the B&W protocol for critiques. Additionally, the site reps. note that a senior manager (Division Manager or designee) was not present at this critique as called for by the B&W critique protocol. The site reps. discussed these observations with YSO and B&W management.

Criticality Safety. Y-12 personnel discussed progress with the staff and site reps. on actions they committed to take in response to the Board's January 23, 2009 letter regarding concerns with the Criticality Safety Evaluations (CSEs) for the Highly Enriched Uranium Materials Facility (HEUMF). B&W is revising the HEUMF CSEs to address YSO comments and is planning to issue the CSEs during the next few weeks. B&W is also developing specific plans/schedules to complete extent-of condition reviews for all other Y-12 CSEs over the next year (see the 7/3/09 site rep. report). Y-12 personnel and the staff also discussed the revised technical design basis for the HEUMF Criticality Accident Alarm System (see the 6/12/09 site rep report).