

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

TO: Timothy Dwyer, Technical Director
FROM: Wayne Andrews and David Kupferer, Site Representatives
SUBJECT: Oak Ridge Activity Report for Week Ending March 9, 2012

Staff member Rory Rauch was in Oak Ridge this week to augment site representative coverage.

Uranium Processing Facility (UPF). B&W has been taking actions to address unresolved technical issues identified by the Board and the Board's staff (see the 1/27/12 report).

- Last week, B&W briefed YSO on a proposed revision to the Safety Design Strategy (SDS) that would include revising the seismic design of the confinement ventilation system and design features for preventing criticality accidents. YSO concurred with B&W's proposal and directed B&W to revise the SDS by the end of March to incorporate an updated control set based on (a) the proposed seismic design of the confinement ventilation system and design features for preventing criticality accidents and (b) the corrective actions B&W is taking to address weaknesses in the Preliminary Safety Design Report (see the 3/2/12 report).
- B&W performed an independent review of some Hazard Evaluation Studies and identified the following issues: (a) Y-12 procedures for performing Hazard Evaluation Studies and Accident Analyses are not consistent with DOE Standard 1189, *Integration of Safety into the Design Process*, requirements, (b) there is inconsistency in the treatment of nuclear criticality scenarios within the safety basis documents, (c) inappropriate initial conditions were assumed and may have precluded identification of potential controls, (d) safety functions and functional requirements for controls are incomplete and lack detail, and (e) some analyzed events do not appear to be unmitigated. This week, B&W issued its Hazard Evaluation Studies Upgrade Plan, which identifies corrective actions to address these issues including reviewing and revising the Hazard Evaluation Studies.

Criticality Safety/Building 9212 Operations. In September 2010, B&W revised the Criticality Safety Requirements (CSRs) associated with the high capacity evaporator (HCE). Included in the many changes was a new requirement for a valve in the vent line of the HCE to be locked open (the CSRs had previously only required the subject valve to be open, not locked). In November 2011, B&W completed its implementation plan associated with the revised CSRs, which included revising the system alignment checklist to show that the subject valve was required to be locked open. The implementation plan did not require production personnel to actually install the lock. Last week, subsequent to performing maintenance on the HCE system, the Shift Manager requested that the system alignment be verified prior to resuming HCE operations. During verification of the system alignment using the aforementioned checklist, production personnel discovered that the valve was open (i.e., in the correct position) but had not been locked open as required by the CSRs. Production personnel made appropriate notifications, initiated a formal 'back-off', and ultimately installed the subject lock. B&W has categorized this event as a criticality safety deficiency and is developing corrective actions.

Readiness Assurance/Conduct of Operations/Building 9204-2E Operations. Quality evaluation and other surveillance activities use gas sampling as a means to analyze weapon parts. Last week, B&W completed a Readiness Assessment (RA) for Non-Destructive Laser Gas Sampling (NDLGS) to startup additional laser gas sampling capacity and capabilities in Building 9204-2E. The RA team identified a few observations related to procedure quality issues and conduct of operations including instances of improper place keeping. First-use of the new equipment is scheduled for May 2012.