

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 December 3, 2010

B53 Dismantlement/Procedures/Conduct of Operations. This week the site representatives observed initial B53 dismantlement operations (see the 8/13/10 report). As reported previously, the Y-12 procedure writer's manual highly discourages referencing between procedures (i.e., a procedure directing operators to perform steps from a second procedure prior to resuming the original procedure) because of the increased potential for personnel error. The primary dismantlement procedure for B53 dismantlement operations directs operators to perform steps from several other procedures. During these initial operations, production personnel suspended operations because the primary procedure instructed operators to perform a step that had already been performed at the direction of a referenced procedure. While there was negligible safety impact of this specific error, this circumstance highlights the purpose for the aforementioned guidance from the procedure writer's manual and the need to thoroughly review the entire suite of procedures during readiness activities.

The site representatives note that, at times, the formality associated with the conduct of these initial dismantlement operations was less than normally demonstrated during nuclear operations at Y-12 including similar assembly and disassembly operations. The site representatives believe that the unavailability of a high fidelity mock-up unit to facilitate operator training prior to the start of initial operations was a significant contributor to the observed lack of operational formality. In other words, because the tooling and equipment involved in the operation had not been truly demonstrated prior to this initial operation, production support personnel were frequently compelled to provide troubleshooting recommendations to the operators. The site representatives also note that the presence of management oversight personnel during these initial operations helped to mitigate the risks associated with this lack of operational formality.

Uranium-233 Disposition Project Backfit Analysis. For major modifications to an existing facility, DOE Standard 1189-2008, *Integration of Safety into the Design Process*, states that a backfit analysis should be performed to assess the need to upgrade the facility structures, systems, and components (SSCs) in accordance with the seismic design criteria contained in the Standard. In September, Isotek issued a revision to its backfit analysis to include the latest consequence calculations for a seismically induced facility-wide fire. Isotek's analysis states that, from an accident analysis perspective, the unmitigated doses do not exceed the offsite radiological thresholds for Seismic Design Category (SDC)-3 (i.e., doses < 5 rem); but, they do exceed the onsite radiological thresholds for SDC-3 (i.e., doses > 100 rem). The backfit analysis concludes that SDC-2 is appropriate based on the large cost to upgrade Building 3019 SSCs and the short-term duration of the U-233 downblending and disposition mission.

Building 9212 Water Leaks. There was an excessive rainfall on November 29th and 30th that resulted in rain water entering various contamination areas in Building 9212. B&W tasked a walkdown team to investigate the leaks and search for new leaks. Due to the excessiveness of the rainfall, existing known leaks had higher leak rates than normal and new leak points were identified. Five of the leaks resulted in administrative control being taken for nuclear criticality safety (NCS) purposes and NCS guidance was given prior to resuming operations. B&W updated its Water Intrusion List, which is maintained by Production Facilities personnel, to include the newly identified leaks.