

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 14, 2008

TO: J. Kent Fortenberry, Technical Director
FROM: R. Todd Davis/David Kupferer/Donald Owen, Oak Ridge Site Representatives
SUBJECT: Activity Report for Week Ending March 14, 2008

A. Board Member Visit. Board members Joseph Bader and Larry Brown along with staff members Grover and Kasdorf visited Y-12 on Wednesday to discuss the progress on preliminary design for the Uranium Processing Facility (UPF). YSO and B&W personnel reviewed the status and actions to resolve previously identified Board open issues on UPF.

B. Safety Basis Analyses. On Thursday, the staff discussed safety bases assumptions used in calculating potential dose consequences for fire scenarios with Y-12 personnel. The Board had questioned the use of a potentially non-conservative Airborne Release Fraction (ARF) for uranium metal in a letter dated January 17, 2008. Y-12 personnel discussed a calculation that indicated that uranium metal involved in a fire would not completely oxidize provided it was not less than a certain thickness. The staff noted that the analysis may provide a basis for adjusting the Damage Ratio parameter used in accident analyses, but did not appear to apply to the ARF. YSO and B&W personnel agreed to consider applying the analysis to the Damage Ratio.

C. Wet Chemistry - Intermediate Evaporator. B&W continues to investigate the upset condition in the intermediate evaporator that recently occurred (see last week's report). After reviewing the laboratory analyses of several process stream samples, facility personnel concluded that the upset condition did not represent a Potential Inadequacy in the Safety Analysis. In particular, B&W concluded that the amount of organics (both dissolved and undissolved) found in the system were consistent with the safety basis analysis.

D. Oak Ridge Transuranic Waste Processing. Preparations have been in progress to startup remote-handled transuranic waste processing in the new hot-cell at the Transuranic Waste Processing Center (TWPC) as well as startup of a new waste drum venting capability at the TWPC (see the 10/19/07 and 1/4/08 site rep. reports). The contractor Operational Readiness Review (ORR) was delayed due to failure of the main lift mechanism used for moving concrete casks into the hot cell. The lift mechanism required some modification. Final practice runs are planned next week and the contractor ORR is now projected to start during the week of March 24th. The DOE ORR is to start in early-April.

E. Feedback and Improvement. Last week, operators discovered that the lid of a can of furnace reduction by-product (slag and liner) had become dislodged, resulting in a small release of material from the can. Unreacted material in the can is the suspected cause. No critique had been called by B&W to formally evaluate the event. On Thursday, B&W management informed the site rep. that a critique is to be scheduled next week (almost two weeks after the event).

F. Y-12 Water Supply System Upgrade Project. B&W has started construction efforts to upgrade the potable water supply at Y-12. The water supply system supports existing Y-12 nuclear facilities including fire suppression systems and is intended to supply the Highly Enriched Uranium Materials Facility. The upgrade includes two new large supply tanks, replacement of aged and deteriorated water lines and replacement of obsolete fire hydrants.