

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 25, 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 April 25, 2008

Uranium Processing Facility (UPF): As part of the response to the Board's January 17th letter regarding potentially non-conservative Airborne Release Fraction (ARF) values for uranium metal, YSO issued direction to B&W on future accident analysis for UPF (also see last week's report). Among several parameters addressed, YSO's direction includes use of bounding ARF's (per applicable DOE guidance) for all materials analyzed. YSO also directed B&W to use a value of 1.0 for the Damage Ratio parameter during preliminary design to help ensure bounding consequence estimates.

Enriched Uranium Material – Unexpected Thermal Reaction - Update: B&W continues to investigate why a chip briquette can experienced a thermal reaction in order to facilitate developing a plan to safely disposition more than 150 similar briquette cans (of which approximately 60 have raised lids). Last week, B&W transferred one of these cans to an inert glovebox to collect samples for analysis including an evaluation to identify any propensity for the material to react pyrophorically. Although physical growth of the briquettes was evident, the chemical lab results were inconclusive and none of the samples taken oxidized when exposed to air. This week, the Management Review Board (MRB) was reconvened to discuss the Production Division's proposal to leave the compensatory measures in place and use an inert glovebox to evaluate the condition of additional briquettes in other cans. The MRB approved the proposal. After the additional data is collected, the MRB will again convene to evaluate the Production Division's proposed path forward for dispositioning the remaining cans.

Conduct of Operations/Work Authorization: Technicians were testing and fine tuning a new 9 MeV X-ray machine (co-located with another operating 9 MeV machine) when a film cassette holder fell and knocked a component containing fissile material a few feet to the floor. During the critique it was determined that the new X-ray machine had just undergone a startup readiness effort, but the work crew had not yet received formal authorization to perform work with fissile material. It is unclear how and why fissile material was in use during testing associated with a startup activity. In response to this event, B&W conducted a work pause for all nuclear operations personnel to discuss this and another recent nuclear component drop event (see last week's report). While focused on the drop events, the work pause also briefly addressed proper use of surrogate materials and the need to assure the start-up process and documentation are complete. B&W is investigating the lack of proper work authorization evident in this event.

B&W Reorganization: The Y-12 B&W general manager (GM) recently announced several changes to the Y-12 management organization. The changes include elevating the Engineering Division manager to vice president directly reporting to the GM. In addition, a new position, the Chief, Nuclear Safe Operations (also directly reporting to the GM) was recently established and the incumbent reported to Y-12 this week.