

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 26, 2010

TO: Timothy Dwyer, Technical Director
FROM: Donald Owen and David Kupferer, Oak Ridge Site Representatives
SUBJECT: Activity Report for Week Ending February 26, 2010

Staff members Abrefah, Grover, and Horton visited Y-12 to review quality assurance for the Uranium Processing Facility (UPF) project.

UPF Quality Assurance. Topics reviewed by the staff and site reps. included federal oversight of the UPF project, evaluation and tracking of lessons-learned from other recent construction projects (including the Highly Enriched Uranium Materials Facility), requirements management, software quality assurance, and planned safety system procurement.

Dismantlement Operations – Small Fire. On Saturday, a small fire occurred during a lathe machining operation. The small fire involved uranium chips/turnings. The B&W operator used pre-staged coke to extinguish the burning chips/turnings within several seconds of noticing the flame. Radiological controls personnel found no elevated levels of contamination in the area or in personnel breathing zone monitoring equipment. The item being machined was the third item of the day and part of a dismantlement program that has been in progress for an extended period. During B&W's critique, operators did not identify any unusual conditions prior to fire ignition. B&W established that operations personnel did not notify the Y-12 Fire Department until about 50 minutes after the event. This is contrary to Y-12 general employee training that requires calling 911 immediately for any fire. B&W management plans to conduct a follow-up investigation. YSO and B&W management consider that this event does not meet DOE occurrence reporting criteria for fires and do not intend to issue an occurrence report under the management concern criteria.

Secondary Extraction Operations. In April 2009, YSO approved the first annual update of the Documented Safety Analysis (DSA) for Building 9212 (see the 5/1/09 site rep. report). This annual update incorporated administrative controls (sampling, analysis, real-time process adjustments)—which are currently being implemented per a Justification for Continued Operations (JCO)—into the DSA (see the 7/17/09 site rep. report). These controls address heavy organic materials to ensure that the downstream phase separator is able to perform its safety function (prevent a red-oil reaction). The JCO (first approved in March 2006) will be canceled in the next few months following implementation verification of the annual update controls.

YSO previously requested that B&W pursue engineered alternatives to the JCO administrative controls (see the 4/4/08 site rep. report). Last month, B&W notified YSO that it is still evaluating development of a simpler control set that is more reliant on engineered controls. Improvements being considered include draining the phase separator daily and using an alternate diluent for the organic. B&W intends to propose a revised control set by the summer of 2011.

Building 9201-5 Documented Safety Analyses. This week, NNSA Headquarters approved YSO's request for an exemption from a requirement regarding hazard categorization in 10 CFR 830, *Nuclear Safety Management*, for the 9201-5 Complex (see the 11/20/09 site rep. report). NNSA's approval is based, in part, on maintaining inventory of radioactive materials below specified levels and maintaining fire suppression systems in accordance with industry standards. NNSA also noted that the approval is not based upon any adjustments to accident analysis parameters (as provided in DOE Standard 1027).