

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 28, 2010

TO: Timothy Dwyer, Technical Director
FROM: Donald Owen and David Kupferer, Oak Ridge Site Representatives
SUBJECT: Activity Report for Week Ending May 28, 2010

Uranium Processing Facility (UPF). In late April, YSO transmitted a letter to B&W on concerns regarding the current design of the safety-significant confinement ventilation system for UPF. The YSO letter stated the primary concern was a lack of redundancy of exhaust fans and power sources for primary and secondary confinement zones noting "... numerous single point failures being able to shutdown any of the three systems needed to operate a process area." Other concerns were identified by YSO in the following areas: (1) estimate of the availability of the confinement ventilation system; (2) definition of safety system boundaries on system diagrams; (3) calculations to support sizing of various filter plenums; and (4) use of equipment designators/identifiers on system diagrams. Last week, B&W responded to YSO by committing to corrective actions that will address most of YSO's concerns, but with no specific actions identified regarding lack of redundancy. B&W proposed a technical interchange meeting(s) with YSO to discuss the confinement ventilation system design and B&W's response in detail. YSO personnel plan to arrange for these meetings to occur during the next few weeks.

Building 9212. After briefing the Board last month (see the 4/30/10 site rep. report), B&W's Continued Safe Operating Oversight Team has submitted its third annual report to YSO and NNSA Headquarters.

Until recently, there were two effective Justifications for Continued Operations (JCOs) applicable to operations in Building 9212. The first was originally approved by YSO in June 2005 and included several administrative controls and a design feature associated with elevated pressure in hydrogen fluoride cylinders used in the Oxide Conversion Facility (see the 3/23/07 site rep. report). The second was originally approved by YSO in March 2006 and included several administrative controls (sampling, analysis, real-time process adjustments) associated with validating that heavy organic materials would not inhibit phase separators from performing their safety function (see the 4/4/08 site rep. report).

In April 2009, YSO approved the first annual update of the DSA for Building 9212 (see the 2/26/10 site rep. report). B&W incorporated the controls from both of the aforementioned JCOs into this annual update. B&W recently completed its Implementation Validation Review to validate that the controls, as defined in the annual update, have been properly implemented. B&W subsequently canceled the two subject JCOs. There is only one JCO still effective at Y-12. That JCO, originally approved by YSO in June 2008, includes administrative controls that restrict on-site transportation of certain weapon components (see the 6/6/08 site rep. report).

Manufacturing Management/Equipment Inspection and Calibration. B&W has initiated a project to develop and implement a new software system (commercial-off-the-shelf) to manage manufacturing operations. The new software system will replace systems that are several decades-old including one system that is expected to lose vendor support in 2012. B&W plans to use this project as an opportunity to shift from an after-the-fact tracking of manufacturing activities to a more proactive system. For example, prior to starting work, B&W intends for this new system to provide real-time delivery of work instructions, validation of operator qualifications, and assurance that equipment (including tooling and gauging) are calibrated. The capabilities of this new system are highly dependent on B&W implementing a classified wireless infrastructure, which is not in the scope of this project.