

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 22, 2006

TO: J. Kent Fortenberry, Technical Director
FROM: R. Todd Davis/Donald Owen, Oak Ridge Site Representatives
SUBJECT: Activity Report for Week Ending December 22, 2006

A. Small Fire/Feedback and Improvement. As externally reported by BWXT this week, a small fire occurred last Friday during a dismantlement operation where an alcohol-moistened cloth ignited during a spark-producing task to separate parts. The fire was immediately extinguished with coke. This appears to be the first such fire for this particular dismantlement program. Not addressed by BWXT's external report, was the failure to immediately notify the Y-12 Fire Department as required by various BWXT training courses. The Fire Department was notified about 2 hours after the fire was extinguished after prompting by engineering personnel. The site rep. notes that failure to immediately notify the Fire Department of a fire in a nuclear facility also occurred for a small fire in a laboratory microwave oven in 2004 (see the 4/30/04 site rep. report).

Applicable job hazard analysis and procedures were not reviewed during the critique following the event (and do not appear to have been at the critique) to determine if this fire hazard had been addressed and what, if any, controls applied to the operation. This week, the site reps. reviewed the job hazard analysis and procedures with YSO and BWXT personnel who indicated the fire hazard was identified for such spark producing tasks. A mitigative control to use coke was specified but no preventive controls were specified (e.g., separation/disposal of combustibles prior to a spark-producing task). Corrective actions are in development.

B. Conduct of Engineering/Feedback and Improvement. As reported on September 15th, BWXT had completed investigation of an engineering deficiency identified in 2005 where a new vessel that had been installed for blending enriched uranium materials required a design change to assure double contingency against criticality. Other corrective actions had not been determined. The site rep. had noted that BWXT's investigation did not specifically address the lack of a formal (integrated) design review for this new installation of nuclear process equipment.

During the last few months, BWXT has defined corrective actions that include training of engineering personnel on the lapses leading to the design problem, and a revision to BWXT engineering procedures regarding need for design reviews for installation of equipment from a prior procurement or project (as was the case for the blender). The site rep. recently inquired on whether adequate, integrated design reviews are required for all installations of new process equipment/systems for nuclear operations. In response, BWXT management stated that performance of such design reviews is largely left to a decision by the project engineer. BWXT management indicated that BWXT would perform further evaluation of their engineering procedures and determine any actions to strengthen these requirements.

cc
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