

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 24, 2009

TO: Timothy Dwyer, Technical Director
FROM: Donald Owen and David Kupferer, Oak Ridge Site Representatives
SUBJECT: Activity Report for Week Ending December 25, 2009

Y-12 nuclear facilities were on a holiday routine from Wednesday through Friday.

Building 9212 Fire Suppression Systems. In April, YSO issued their approval of the annual update to the Building 9212 Documented Safety Analysis that included certain Conditions of Approval (COAs) regarding the safety-class fire suppression systems (see the 5/1/09 site rep. report). Based on site rep. discussions with YSO and B&W personnel, an update on B&W's efforts to respond to these COAs follows:

- 1) YSO directed B&W to not downgrade the safety-class fire suppression systems to safety-significant until B&W incorporates the bounding Airborne Release Fraction value for metal into the accident analysis. B&W plans to continue to retain the systems as safety-class for the next annual update.
- 2) YSO directed B&W to perform hydraulic calculations of the most hydraulically remote area (based on engineering judgment) of the safety-class fire suppression systems and, if warranted, identify other areas for evaluation. B&W has performed hydraulic calculations that indicate the sprinklers in the most remote area generally meet the flow density requirement for ordinary hazard group 1 (one head was slightly below the 0.15 gpm/ft² requirement). The water supply pressure used in the calculations, which is a key parameter, is based on field pressure measurements from a nearby hydrant and not the specified minimum pressure in the Technical Safety Requirements (TSR). The B&W report on these calculations is being completed. B&W personnel noted that new potable water supply tanks are scheduled to be placed in service in March 2010 and should substantially increase the water supply pressure for Y-12 fire suppression systems.
- 3) YSO directed B&W to install new wireless pressure monitoring devices on the safety-class fire suppression systems. B&W is completing the design of the monitoring equipment and plans to start development testing in January. B&W plans to install the devices in Building 9212 by September with validation testing and implementation as a TSR control being completed in 2011.

Unreviewed Safety Question Determination (USQD) Process. 10 CFR 830, *Nuclear Safety Management*, requires contractors to perform a USQD on proposed facility modifications and proposed revisions to approved procedures. Each of the past several years, B&W has performed more than 1000 USQDs that resulted in identifying three or less positive USQs. Last month, with the objective of streamlining the USQD process, B&W submitted a revised USQD procedure to YSO for approval (see the 11/25/09 site rep. report). The revised procedure includes a new option to perform an "Expert USQD" where a designated, experienced reviewer would make the determination either that it is *readily apparent* the proposed activity/procedure revision would not result in a positive USQ or that a standard USQD needs to be performed. The intended benefit is that the Expert USQD requires less documentation and approvals than the standard USQD. This week, YSO requested that NNSA Headquarters review the revised USQD procedure to confirm YSO's position that it is compliant with the requirements of 10 CFR 830.