

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

TO: Timothy Dwyer, Technical Director
FROM: Wayne Andrews and David Kupferer, Site Representatives
SUBJECT: Oak Ridge Activity Report for Week Ending March 16, 2012

Training. Staff members J. Anderson, D. Campbell, J. Pasko, and C. Roscetti visited Y-12 to review the implementation of B&W's training and qualification program for nuclear workers.

Uranium Processing Facility (UPF). Staff member F. Bamdad visited Y-12 to discuss the safety analyses and safety systems for UPF. These discussions focused on (a) lingering concerns previously identified by the staff regarding the Safety Design Strategy (SDS) and Preliminary Safety Design Report (PSDR) for UPF (see the 4/1/11, 6/3/11, and 10/21/11 reports) and (b) actions B&W has proposed to try and resolve some of these concerns (see the 1/6/12 and 3/9/12 reports). It is likely that these corrective actions, if properly documented and executed, would resolve a few of the staff's concerns including the following:

- B&W proposed that items necessary for preventing a criticality accident following a seismic event be designed to Safety Design Category (SDC)-3 criteria. Concurrently, B&W plans to document a technical basis that is intended to demonstrate SDC-2 and SDC-3 criteria are equivalent for UPF systems and components.
- B&W proposed that a portion of the active confinement ventilation system be designed to SDC-2 criteria to provide a filtered confinement capability both during and following a seismic event.
- B&W stated that self-protective actions will be removed from safety analyses as an initial condition, which may result in the identification of additional controls.

Fire Protection. National Fire Protection Association (NFPA) standards state that "where sprinklers have been in service for 50 years, they shall be replaced or representative samples from one or more sample areas shall be submitted to a nationally recognized testing laboratory ... for field service testing." In June 2011, B&W requested YSO's concurrence on its proposed Aged Sprinkler Testing Program, which included criteria for determining whether sprinkler heads should be considered operable based on results of field service testing (see the 7/8/11 report). In general, B&W proposed that sprinklers be considered operable as long as the representative sample—four heads or 1 percent of the subject population, whichever is greater—have a response time less than 200 seconds and release at a pressure less than 35 psig. The NFPA standards state that sprinkler heads should be replaced if they either (a) have a response time greater than 130 seconds or (b) release at a pressure greater than 5 psig. Last week, B&W notified YSO that it has decided to forego testing of sprinkler heads in credited fire suppression systems that have been in service for 50 years and will instead replace those sprinkler heads. The first credited fire suppression system to reach the 50-year limit is located in Building 9212 and B&W is in the process of replacing those sprinkler heads.

Operational Drills. Last month, B&W performed an operational drill in Building 9212. The drill scenario involved evacuation of B-1 Wing in response to a fire alarm. B&W identified several lessons learned from this drill including that this specific drill should be conducted on a regular basis (e.g., annually or biennially) to aid employees in understanding the abnormal event response requirements for the B-1 Fire Protection Program.