

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 18, 2011

Maintenance/Conduct of Operations. Last month, B&W issued a Conduct of Operations improvement plan for the Utilities department in the Facilities, Infrastructure and Services (FI&S) division (see the 12/24/10, 7/2/10, and 6/4/10 reports). The improvement plan includes an extensive and thorough list of actions to improve the Utilities department's compliance with the requirements of the Y-12 conduct of operations manual. In addition, the Maintenance Execution department in FI&S has been conducting periodic small-group sessions to re-emphasize the importance of proper conduct of operations.

Two weeks ago maintenance personnel from the Maintenance Execution department used a hoist and sling to lift the shaft of an agitator out of a tank identified as internally contaminated with radioactive material. The maintenance workers were unaware that there was a radiological work permit (RWP) for this activity. The work package included a hazard identification worksheet that identified "... radiological materials, contamination, or posted radiological areas ..." were involved and that "... workers must be RAD Worker II trained ... and sign in on the Radiological Work Permit that covers the scope of work to be performed." The RWP required workers to wear cloth coveralls, two pairs of anti-contamination gloves and two pairs of shoe covers. Since they were unaware of the RWP, the only personal protective equipment worn by the workers was leather gloves. After the job was completed, facility personnel discovered the subject RWP in the paperwork at the job site and notified radiation control personnel. B&W conducted a critique of the event this week and identified corrective actions to conduct additional training on radiological practices/controls for maintenance personnel.

Highly Enriched Uranium Materials Facility (HEUMF). This week B&W externally reported a 'management concern' occurrence related to the safety-significant Fire Water Distribution (FWD) system for HEUMF. Specifically, last Thursday one of the two batteries for starting the diesel fire pump failed during surveillance testing. The Technical Safety Requirements for HEUMF state that one of the criteria for the FWD system to be operable (i.e., preclude entering the applicable Limiting Condition of Operation) is that the "... diesel engine and supporting controls to start and maintain the engine running are operable." Despite that the cause of the battery failure remains unknown and that National Fire Protection Association codes require diesel engines to have two batteries, B&W determined that only one battery is necessary for the FWD to be operable. B&W has tested the subject diesel fire pump several times during the past week in the single battery configuration. In all instances, the diesel fire pump operated as expected. B&W is planning to install a second battery this week.

Highly Enriched Uranium – Thorium (HEU-Th) Disposition Project. This is a project to disposition the current inventory of HEU-Th stored at Y-12 in several different buildings at Y-12. The HEU-Th surplus material is a High Temperature Gas Reactor (HTGR) fuel material comprised of micro-encapsulated particle spheres. The existing containers are a wide range of previously certified containers (i.e., 30 gallon, 55 gallon, and 110 gallon) that are no longer certified for off-site shipments. All material forms will have to be recontainerized into proper shipping containers (i.e., 9979 Type A(F)) based on the gram content limits. Most of the material forms in storage fit within the existing waste acceptance criteria for Nevada National Security Site (NNSS). It is anticipated that the repacking operation will be approved next week and Y-12 will begin packing drums with the delivery of the first 9979 drums in late April.