

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 October 21, 2011

Staff member A. Gwal visited Y-12 to conduct a walkdown of lightning protection systems associated with Building 9212.

Uranium Processing Facility (UPF). Staff members F. Bamdad, M. Dunlevy, E. Elliott, D. Grover, R. Kasdorf, and C. March visited Y-12 to discuss UPF safety basis documents with personnel representing both B&W and YSO. Noteworthy items from these discussions include the following:

- Safety Design Strategy (SDS) — YSO has not approved the revision of the SDS that B&W submitted in June (see the 6/17/11 report). Based on comments communicated by both the Board's staff and YSO, B&W is planning to revise its SDS during the next couple months.
- Preliminary Safety Design Report (PSDR) – YSO provided B&W with 92 pages of comments on the PSDR (see the 7/15/11 report). YSO's comments include the identification of weaknesses in the following categories: (a) classification of controls and identification of associated safety functions and functional requirements, (b) unanalyzed hazards, (c) reliance on administrative controls rather than engineered controls, and (d) analysis of post-seismic hazards. YSO plans to formally transmit its comments during the next two weeks.
- Staff Concerns – The staff continues to have questions and concerns associated with B&W's strategies for (a) post-seismic confinement of hazardous materials and (b) preventing post-seismic criticality accidents (see the 4/1/11 report). The staff also had several questions and concerns associated with the assumptions B&W made in its atmospheric dispersion modeling and accident analysis parameters (e.g., deposition velocity, material-at-risk, etc.).

Emergency Management. At YSO's request, DOE Headquarters assessed the capability of the emergency response facilities at Y-12. These facilities include the emergency operations center (located at the East Tennessee Technology Park approximately 7 miles from Y-12), the technical support center (located onsite), and the fire station (also located onsite). The assessment team's report included the following observations:

- Due to its location and construction, the emergency operations center is generally impervious to the vulnerabilities associated with the onsite facilities and is one of the more capable command centers in the DOE complex.
- Several hazardous material release scenarios could make the onsite emergency response facilities (e.g., the technical support center and fire station) inaccessible or uninhabitable.
- To mitigate some of the identified vulnerabilities associated with the onsite emergency response facilities, Y-12 management should increase its emphasis on planning, drills, and exercises that involve relocating emergency response personnel to alternate facilities such as the emergency operations center.
- Due to concerns associated with structural integrity, DOE should consider renovating the existing fire station or building a new fire station in conjunction with the conceived Complex Command Center (see the 2/25/11 report).