

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 21, 2010

TO: Timothy Dwyer, Technical Director
FROM: Donald Owen and David Kupferer, Oak Ridge Site Representatives
SUBJECT: Activity Report for Week Ending May 21, 2010

Board members Peter Winokur, Joseph Bader, Larry Brown and Jessie Roberson along with staff members Dwyer, Moury, Abrefah and Andrews visited Oak Ridge this week.

Board Visit to Oak Ridge. YSO, DOE-ORO and contractor personnel briefed the Board members and staff on nuclear operations and safety initiatives at Y-12 and ORNL. The Board members and staff also walked-down several Y-12 and ORNL defense nuclear facilities. Some noteworthy items from the visit include:

- Uranium Processing Facility (UPF) – B&W is still developing a document to illustrate how and when the planned design and safety basis deliverables for the project will satisfy the intent of DOE Standard 1189, *Integration of Safety into the Design Process* (see the 4/23/10 site rep. report). B&W management stated that, per DOE Standard 1189, the UPF Safety Design Strategy and Project Execution Plan need to be revised to provide more detail regarding the planned tailoring of project milestones and safety basis documentation. B&W intends to delay submittal of the first Critical Decision-2/3 package (site preparation and some long-lead procurement) from June to September.
- Wet Chemistry Operations – Oxide Conversion Facility and reduction operations have recently resumed after equipment-related shutdowns of about two and six months, respectively. B&W is preparing the secondary intermediate evaporator equipment for operation by this summer. Design efforts to improve the denitrator product canning task are nearing completion. Operators currently wear respiratory protection for canning the product UO_3 material. B&W plans to install pneumatic piping/equipment to transfer the UO_3 to a glovebox for product canning in the next several months.
- Uranium-233 Disposition/ORNL Building 3019 – Isotek is planning to submit the Preliminary Documented Safety Analysis to DOE-ORO after design is completed this December (see the 3/26/10 and 2/19/10 site rep. reports). In March, subject matter experts reviewed the results of geotechnical samples that were retrieved in the area of the planned annex to Building 3019. Based on that review, Isotek is planning to use 36 ‘micropiles’ (rebar surrounded by concrete and steel casing) below the annex to support the foundation and address the potential impacts of subsurface voids. Isotek and DOE-ORO are evaluating possible controls (e.g., pressure monitoring, valve configuration controls) to ensure that the existing water supply for fire suppression is adequate for the downblending campaign.
- ORNL Tank W-1A – BJC is performing additional soil sampling along the primary waste line piping to the tank. The safety basis and radiological hazard evaluation documents for soil excavation are in development. BJC plans to utilize a full mockup for demonstrating soil excavation and tank removal in the fall. BJC projects the start of soil removal at Tank W-1A in January 2011.
- Recommendation 2005-1 – Over the next several years, B&W plans to design and test four new nuclear material containers (two for dry materials, one for wet materials, and one for overpacking) that are compliant with the requirements of DOE Manual 441.1-1, *Nuclear Material Packaging Manual* (see the 1/22/10 and 12/5/08 site rep. reports). B&W has completed the design of one of the dry material storage containers and intends to procure and test prototypes by this fall.