

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 18, 2009

TO: Timothy Dwyer, Technical Director
FROM: Donald Owen and David Kupferer, Oak Ridge Site Representatives
SUBJECT: Activity Report for Week Ending September 18, 2009

Mr. Kupferer was out of the office this week. Staff member David Gutowski visited Oak Ridge to observe the DOE Construction Project Review related to uranium-233 disposition.

Highly Enriched Uranium Materials Facility (HEUMF). The B&W Implementation Validation Review of HEUMF safety basis controls, originally planned to be finished this week, was extended into next week to complete field work and determination of findings (see the 9/4/09 site rep. report).

ORNL Building 3019/Uranium-233 Disposition. The DOE Office of Environmental Management (EM) conducted a Construction Project Review (CPR) of the Uranium-233 Downblending and Disposition Project (see the 9/4/09 site rep. report). CPRs were implemented this year by DOE-EM to evaluate progress in technical design, cost, schedule, management, and technology development for EM projects. For this CPR, the technical design review was also considered to be a stand-alone 60% design review. The CPR team briefed results to DOE-ORO and Isotek management. Major recommendations include:

- bring key systems including confinement ventilation and fire protection to 60% design status,
- establish appropriate configuration management/design control for 60% design status,
- validate that safety functions in the (recently submitted) Preliminary Safety Design Report are supported by functional design requirements,
- develop a corrective action plan for continuing software quality assurance deficiencies,
- develop an integrated test plan that ensures waste acceptance criteria for disposal of the solid waste product will be met, and
- hire an experienced design engineer to assist the Federal Project Director and lead the DOE Integrated Project Team in design oversight through acceptance of final design.

Building 9201-5 Documented Safety Analyses. B&W submitted additional information requested by YSO to support B&W's exemption request regarding 10 CFR 830, *Nuclear Safety Management*, for the entire 9201-5 Complex (see the 8/21/09 site rep. report). This information was incorporated into the exemption request that states that no significant radiological consequences can be attributed to materials stored and processed in the 9201-5 Complex. B&W notes in their transmittal that the fire suppression systems will continue to be maintained for the remaining chemical hazards. YSO review of the exemption request continues.

Oxide Conversion Facility (OCF). OCF has not been operated since late July due to a blockage in a pressure sensing line to the reduction fluid bed (where UO_3 is reduced to UO_2). This was the first such blockage since initial OCF startup in 2006. Attempts to remove the blockage using a long thin rod and an extended drilling tool were unsuccessful. Work planning has been underway during the past several weeks to cut and remove most of the sensing line, extract any remaining blockage and replace the removed piping. This week, the planned line cut was made and blockage material removed. The remaining pipe extending from the fluid bed, however, has a much greater thickness than the removed section. B&W personnel indicated that this configuration is not consistent with the OCF drawings. The line replacement task was put on hold pending evaluation.