DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 6, 2009

TO: Timothy Dwyer, Technical Director
FROM: Donald Owen and David Kupferer, Oak Ridge Site Representatives
SUBJECT: Activity Report for Week Ending November 6, 2009

Highly Enriched Uranium Materials Facility (HEUMF). Field work for the B&W Operational Readiness Review (ORR) was completed this week and the ORR team briefed results to Y-12 personnel. The B&W ORR team considered the level of knowledge of HEUMF personnel and overall conduct of operations as strengths. The team identified five pre-start findings, and several post-start findings and weaknesses. The pre-start findings were in the areas of response to potential criticality safety deficiencies (see last week's site rep. report), fire code requirements, equipment calibration during a surveillance, inventory of hazardous materials, and required equipment availability. The ORR report is to be completed next week. The NNSA ORR is scheduled to start December 7th.

Building 9212 Facility Risk Review (FRR). NNSA Headquarters has approved Critical Decision-1 (CD-1), Preliminary Baseline, for the Nuclear Facility Risk Reduction (NFRR) Project (see the 1/2/09 site rep. report). The CD-1 package included the project execution plan, program requirements document, and acquisition strategy. The scope of the NFRR project is to complete many of the facility upgrades identified in the Building 9212 FRR completed in response to prior Board correspondence (see the 8/29/08 and 2/1/08 site rep. reports). The project schedule includes beginning design work in FY 2010 and beginning construction in FY 2012. NNSA Headquarters requested that the project team re-evaluate the project schedule to avoid a phased CD-2 approach and to allow for obtaining construction funding in FY 2011.

ORNL Building 3019/Uranium-233 Disposition. DOE-ORO recently issued its Preliminary Safety Validation Report (PSVR) that approves Isotek's Preliminary Safety Design Report (see the 9/4/09 site rep. report) for the Uranium-233 Downblending and Disposition Project. Uranium dissolution and downblending is to occur in an existing process cell and a new hot cell in Building 3019. The downblended solution is to be transferred to a new Annex Building where the material will be processed into a solid salt structure and packaged for disposition. In its PSVR, DOE-ORO states that the identification of hazards and discussion of postulated accidents are complete and conservative. However, DOE-ORO provided several comments that DOE-ORO stated must be addressed before submittal of the Preliminary Documented Safety Analysis. The comments cover a range of topics including ventilation system design, fire protection system design, seismic design criteria, combustible material controls, and criticality safety.

Uranium Processing Facility (UPF). To capture lessons-learned from Y-12 operating facilities for UPF, B&W had issued a Standing Order for operating facility engineers (see the 1/9/09 site rep. report). The Standing Order requires operating facility engineers to compile a monthly summary of events or issues relevant to UPF design and submit the compilation to the UPF project or to meet with project personnel to discuss the issues. B&W management noted to the site rep. that this requirement has been implemented as a monthly meeting between operating facility engineers and UPF project engineers. The site rep. observed the last monthly meeting where certain recent events were discussed by operating facility engineers and potential implications for UPF design were noted by UPF project engineers. Meeting minutes are produced on the issues discussed each month for use by the UPF project. A written form to systematically document initial input by operating facility engineers is being developed.