DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 18, 2006

TO: J. Kent Fortenberry, Technical Director
FROM: R. Todd Davis/Donald Owen, Oak Ridge Site Representatives
SUBJECT: Activity Report for Week Ending August 18, 2006

A. Highly Enriched Uranium Materials Facility. A team of BWXT and Bechtel personnel from outside of Y-12 conducted a follow-up review this week on the Quality Assurance (QA) deficiencies for the Highly Enriched Uranium Materials Facility (HEUMF) that were identified earlier this year (see the 8/11/06 and prior referenced site rep. reports). On Friday, the team discussed overall results of this follow-up review with Y-12 management. In summary, the team noted that: (1) many QA improvements have been made since February through new or substantially revised processes and procedures aimed at ensuring the quality of HEUMF construction; (2) the overall safety culture regarding quality of construction, found highly lacking in February, has been improved; and (3) adequate actions to address many of the QA deficiencies previously identified have been completed, however, some efforts remain to fully resolve all the deficiencies. A report of this follow-up review is expected by next week. BWXT management also noted that a full-scope, corporate-level reassessment of HEUMF construction QA is being planned for early 2007.

B. Feedback and Improvement/Conduct of Engineering. As reported last week, BWXT engineering personnel had identified last October that the equipment design and approach to loading a new vessel for blending enriched uranium materials would not prevent a criticality in an unlikely water intrusion event. In response, a design change was made to reduce internal volume of the blending vessel (internal spacer added to vessel end caps). Following discovery of this design problem last October, BWXT management noted that the prior engineering and design review of the blending equipment would be investigated. Recently, the site rep. inquired on the results of that investigation. BWXT management noted to the site rep. that while some investigation was performed, no report was developed and no corrective actions were identified or assigned. BWXT management noted to the site rep. that investigative information will be gathered, evaluated and a report developed in the next few weeks. BWXT management stated to the site rep. that corrective actions are anticipated.

C. Oak Ridge Radioactive Waste Management. As reported on June 23rd, DOE had suspended their Operational Readiness Review (ORR) for a campaign by Bechtel-Jacobs Company (BJC) to install filtered vents and sample ports in more than 2000 waste drums in storage at ORNL. An unsatisfactory demonstration of the operation by BJC had led to the ORR suspension. DOE ORR personnel recently observed another demonstration of the operation by BJC. The prior demonstration issues were considered to be resolved by the DOE-ORR team. A DOE-ORO recommendation to DOE-Headquarters to approve startup is anticipated next week.

D. Special Processing Activity. In June 2005, a failed container of machining chips dating back to a special program in 1987 was discovered and a few liters of sludge-like material had spilled on the floor (see the 6/3/05 and 7/1/05 site rep. reports). Subsequent cleanup efforts included repackaging all of the chip material for short-term storage, which was completed late last year. The current disposition path is processing in the Savannah River Site H-Canyon Facility. The chips need to be converted to an oxide and calcined, however, prior to shipment. This week, the site reps. performed a walk-down of the processing area where the chips will be dissolved and converted to uranyl-nitrate solution (beaker leaching) and then be converted to an oxide using the existing table-top precipitation/furnace calcining system. BWXT plans to perform a Readiness Assessment for the beaker leaching portion of the process in mid-September.