DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 15, 2008

TO: J. Kent Fortenberry, Technical Director
FROM: R. Todd Davis/David Kupferer/Donald Owen, Oak Ridge Site Representatives
SUBJECT: Activity Report for Week Ending February 15, 2008

Mr. David Kupferer started his assignment as an Oak Ridge Site Representative this week.

A. Wet Chemistry. As noted on February 1st, B&W completed a feed treatment task that supported introduction of solutions to the primary extraction system. B&W has since introduced about 60 safe bottles of enriched uranium solution to the wet chemistry system. Opening this solution processing pipeline is a significant milestone that will allow B&W to reduce the solutions in safe bottles stored in several areas of the Enriched Uranium Operations Building. Reduction of the material-at-risk in these solutions is a key part of Y-12's plan for near-term risk management in the Enriched Uranium Operations Building.

B. Oxide Conversion Facility Restart. The YSO and B&W Operational Readiness Reviews (ORRs) for restart of the Oxide Conversion Facility continued this week (see the 2/8/08 site rep. report). Process demonstrations were stopped on Monday and Tuesday due to improper equipment return-to-service following a control valve software adjustment and a gage calibration, respectively. The process demonstration was then completed along with other YSO and B&W ORR field work by Friday. The B&W ORR team plans to brief results of the ORR next week.

C. Conduct of Operations. On Thursday, following inquiry from YSO management on concerns with conduct of operations in the Special Materials Processing Building, B&W management evaluated the concerns and declared a safety-standown in the building pending corrective actions. The main concerns include lack of adherence to procedures and performance of tasks without proper authorization. B&W investigation of a separate incident involving a pressure reversal in a positive-pressure glovebox also revealed lack of proper communication to shift management for a prior problem with oxygen detection equipment.

D. ORNL Building 3019/Uranium-233 Operations. New senior management for Isotek began discussions with DOE-ORO personnel on efforts to re-evaluate the design of main hot-cell and other downblending system equipment. Isotek believes the downblending system design can be simplified in a number of areas including hot-cell remote manipulator and other equipment arrangement, use of modular construction for the hot-cell, and increased use of steel plating in lieu of concrete and lead for hot-cell radiation shielding.

Isotek reported a Potential Inadequacy of the Safety Analysis regarding lift height restrictions that apply to recent and planned handling of traps containing uranium-233 hexafluoride (see the 10/19/07 site rep. report). Four of the approximately 12 planned traps have been stored and the remaining traps are to be received and stored in the near future. DOE-ORO and Isotek personnel noted that a Justification of Continued Operation is anticipated to be submitted to DOE-ORO to support the planned trap handling activity.

E. Uranium Processing Facility. B&W awarded a contract for the first Basic Ordering Agreement (BOA) for specialty mechanical design to Merrick and Company, who are partnered with Washington Group International and Ares Corporation. Task orders associated with this BOA include preliminary design for process chemical and metalworking systems.