

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 8, 2005

TO: J. Kent Fortenberry, Technical Director
FROM: R. Todd Davis/Donald Owen, Oak Ridge Site Representatives
SUBJECT: Activity Report for Week Ending April 8, 2005

A. Microwave Casting. YSO completed their Readiness Assessment (RA) for startup of the microwave casting operation (a prototype campaign limited to 15 runs) in the Enriched Uranium Operations building this week. The pre-start findings dealt with analysis of the microwave chamber pressure relief system and content of procedures. A few post-start findings and several observations were also identified. BWXT is addressing the RA issues. Startup authorization is now expected to be requested during the week of April 18th.

B. Off-Specification Uranyl Nitrate Solutions. This week, the contractor RA team completed their assessment of the off-specification uranyl nitrate solution processing activity in special processing. The RA team concluded that the basic program, processes and systems are adequately implemented to ensure safe operations pending closure of the pre-start findings. Pre-start findings included identification of control manipulations, procedure errors and criticality engineering evaluation of equipment used during the blending operation. In addition, several post-start findings and observations were identified by the team. Notably, the RA team observed that only the absolute minimum staffing were currently certified and that additional operators would provide operational flexibility. BWXT is in the process of closing these findings and plans to begin operations in the next few weeks.

C. Activity-Level Work Planning. As reported last week, YSO had questioned whether work planning review protocols developed for infrequent, potentially hazardous activities had been employed for a maintenance activity to replace a conveyor belt in a casting line glovebox. In response, Enriched Uranium Operations building management placed this activity on hold pending a facility operational safety board (OSB) review of work planning for the activity. On Monday, maintenance personnel presented to the OSB a limited work package with a generic Job Hazard Analysis (JHA) that covers a wide variety of mechanical work for use on this activity. The OSB concluded that the work package would not provide a sound basis for safety, withheld approval to proceed and directed that a JHA specific to the activity be developed. Investigation and evaluation of the work planning issues raised by this event has been started by BWXT. YSO management discussed their expectations for the investigation and the identification of corrective actions (e.g., address potentially broader work planning issues) with BWXT management.

D. Oxide Conversion Facility. As reported on March 4th, YSO has authorized startup of the Oxide Conversion Facility (OCF). In the last few weeks, BWXT has introduced hydrogen and potassium hydroxide (KOH) to the process systems and proceeded with startup testing in accordance with the OCF startup test plan. Both low temperature and high temperature testing for the hydrogen system is complete. During testing of the B-1 Wing scrubber, however, BWXT identified problems with instrument line plugging and with high differential pressure. BWXT installed a redesigned scrubber basket and reduced the KOH concentration to help resolve these problems, but foaming in the scrubber continues to result in a high differential pressure. BWXT is currently performing mock-up testing at an off-site location and evaluating de-foaming agents. Testing of process systems using hydrogen fluoride cannot begin until the B-1 Wing scrubber issue is resolved.