

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 22, 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 22, 2008

A. Oxide Conversion Facility Restart. This week, both the YSO and B&W Operational Readiness Review (ORR) team leaders briefed the results of their reviews. Both teams recommended approval to restart this facility following resolution of the pre-start findings. The most significant pre-start finding identified by both teams involved ensuring system status control following a maintenance or upset condition. As noted last week, improper equipment return to service issues impacted process demonstrations during the ORRs. As part of the process for addressing ORR findings, B&W will conduct an extent of condition review for this issue. Both teams noted that operator knowledge and performance were a strength during conduct of the ORR. B&W plans to restart enriched uranium operations in March.

B. Uranium Holdup/Criticality Safety. As noted on October 12th, the site reps. had inquired on the significant delay of progress with the Inadvertent Accumulation Prevention Program (IAPP). The IAPP was a major action responding to uranium holdup issues in a vacuum pump filter in 2006. In October, B&W dedicated resources and IAPP progress was resumed. The initial phase of IAPP involves reviews of systems and equipment involving fissile material that rely on uranium holdup surveys for criticality safety. This week, B&W personnel discussed IAPP progress with the site reps. and staff. The initial IAPP reviews have recently been completed. The reviews resulted in numerous recommendations including new holdup survey locations, higher frequency surveys, new periodic clean-outs of certain areas, and new periodic change-outs of filters. B&W personnel noted that implementation of these IAPP recommendations has been prioritized and will be scheduled and tracked by the IAPP project manager.

C. Secondary Extraction Operations. In March 2006, YSO approved a Justification for Continued Operations (JCO) that assessed the hazards associated with the presence of heavy organic materials that prevented the organic phase separators from performing their safety function. The JCO described several compensatory administrative controls including additional sampling, analysis, real-time process adjustments, and operational restrictions. One condition of YSO's approval was for B&W to complete additional analyses prior to operating the Secondary Extraction (SX) process for more than 100 hours. This report, which was issued last week, states that the aforementioned controls were effective and, while it is likely that some of the controls could be relaxed, it would be premature to relax the controls at this time. The report also contains several recommendations for potential methods to control the concentration of organics during SX process operations.

D. Highly Enriched Uranium Materials Facility. Last week, B&W submitted an evaluation to YSO regarding downgrading the Criticality Accident Alarm System (CAAS) from safety-significant to defense-in-depth at the Highly Enriched Uranium Materials Facility (HEUMF). Based on the plans for material storage in HEUMF, B&W concludes that there is no potential for a multi-pulse criticality accident scenario. For a single-pulse criticality scenario, B&W believes that the HEUMF CAAS serves no preventive function and only provides limited mitigation to workers such that the safety-significant classification is not warranted. YSO is evaluating the B&W submittal.