DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 19, 2005

TO: J. Kent Fortenberry, Technical Director
FROM: R. Todd Davis/Donald Owen, Oak Ridge Site Representatives
SUBJECT: Activity Report for Week Ending August 19, 2005

Mr. Davis was out of the office this week. Staff member John Contardi was at Oak Ridge to perform site representative duties.

A. Y-12 Chip Oxidation Operation. Operations to evaluate the chip oxidation vessel with reduced oxygen flow rates have recently been started in the Enriched Uranium Operations building (see 7/8/05 and 7/22/05 site rep. reports). These initial runs have shown that vessel wall temperatures are greatly lowered with reduced oxygen flow into the vessel. Several additional runs with varying loadings and flow rates are planned establish parameters for future operations.

B. Y-12 Process Filters/Criticality Safety. During the Readiness Assessment (RA) in July for the chip oxidation operation noted above, the RA team identified that a high differential pressure for a dry vacuum system HEPA filter needed to be addressed (this filter is a pre-filter to credited downstream HEPA filters). The most recent in-situ non-destructive assay (NDA) in June had indicated approximately 170 grams of uranium-235. The filter was replaced and initial NDA of the removed filter on Tuesday indicated that the filter contained 785 grams uranium-235, above NDA action levels for criticality safety. Criticality safety personnel were called and provided written instructions to move the filter to an approved storage location and post the filter as a criticality safety deficiency, pending further written instructions. BWXT is investigating conduct of such in-situ NDA measurements and protocols for replacement of such filters (this filter had been installed potentially as early as 1986), including response to earlier filter testing concerns noted by a YSO Facility Representative. BWXT personnel informed the site rep. that BWXT intends to report this issue in the DOE occurrence reporting system.

C. Y-12 Conduct of Operations/Criticality Safety. On Wednesday, based on verbal instructions from Enriched Uranium Operations management, operations personnel moved the loaded HEPA filter noted above to a hood and removed material from the filter in order to support a refined measurement of holdup. While plans to ultimately perform this action had apparently been discussed among criticality safety and operations personnel, criticality safety personnel had not issued written instructions to move and process the filter (additional NDA was planned). These actions were taken despite the filter still being posted as a criticality safety deficiency. Corrective actions to reinforce proper handling of such conditions via written instructions from criticality safety personnel are being developed.

D. Oak Ridge Radioactive Waste Management. As noted last week, planning had begun by Bechtel Jacobs Company (BJC) to extract samples from the highly radioactive soil around waste tank W-1A to delineate soil that would be handled as transuranic waste from soil that could be handled as low-level waste. This week, the site rep. and staff discussed with DOE-ORO and BJC personnel the approach to sampling, the inventory controls on radionuclides brought to the surface at any one time, and the progress of activity-level work planning. The work is to be done by subcontractors experienced in radiological soil sampling operations at Oak Ridge. BJC personnel stated that key work planning documents, including activity hazard analysis, radiological work evaluations and work instructions/permits implementing defined safety controls, are projected to be completed by early September. BJC then plans to perform their line management assessment followed by an independent contractor RA in late September.

cc
Board Members