

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 20, 2007

TO: J. Kent Fortenberry, Technical Director
FROM: R. Todd Davis/Donald Owen, Oak Ridge Site Representatives
SUBJECT: Activity Report for Week Ending July 20, 2007

This week, staff member Ernie Elliott was on-site to augment site representative coverage. Mr. Owen was out of the office this week.

A. Building 9212 Documented Safety Analysis. On Monday, the BWXT Implementation Validation Review (IVR) team issued their report based on reviews conducted in June. The team identified 9 pre-implementation findings and 26 post-implementation findings. All 9 pre-implementation findings were closed prior to issuing the report. Therefore, the report recommends that the 10 CFR 830 compliant Documented Safety Analysis (DSA) be declared as implemented.

In parallel with the BWXT IVR, YSO conducted an IVR to ensure adequate DSA implementation. The YSO team observed the BWXT IVR team activities and reviewed implementing details on a sample basis. The site rep. and staff met with the YSO team leader to discuss the status and details of their review this week. The YSO IVR team identified one pre-implementation finding and four post-implementation findings. The pre-implementation finding is associated with implementation of the Large Geometry Exclusion Area (LGEA) program. There were several known facility deficiencies for the LGEA program; however, the BWXT IVR team concluded that these were being addressed and did not indicate lack of program implementation. On Friday, facility personnel were correcting the LGEA deficiencies and expected to close this finding tomorrow. DSA implementation for Building 9212 is expected to occur this weekend.

B. Wet Chemistry Spill. On Tuesday, BWXT conducted a critique for the high capacity evaporator feed tank spill that occurred last week (see the 7/13/07 site rep. report). Based on discussions during the critique, BWXT concluded that a compensatory measure is required to limit the secondary tank volume until the mechanisms for the solution transfer are better understood.

C. Wet Chemistry Operations. As a part of the high capacity evaporator system, a gamma monitor is used to detect carryover of uranium to the evaporator condensate system (overheads). If uranium is detected in the condensate, an interlock activates to prevent the condensate from being transferred to downstream collection tanks. Carryover of uranium to the condensate system has occurred a number of times over the last few years (mainly due to organics in the feed stream) and is identified as a likely event in the criticality safety evaluation. However, use of the gamma monitor is identified as a "good practice" and is not required by criticality safety. Once the condensate is transferred to downstream collection tanks, samples are drawn prior to discharge to large geometry tanks, but the analysis protocol is susceptible to single point failures. A uranium carryover event occurred recently and the gamma monitor interlock activated to prevent transfer to the collection tanks. However, YSO has now questioned whether use of the gamma monitor should be required. Based on these concerns, a compensatory measure has been written to require use of the gamma monitor during high capacity evaporator operations. In addition, BWXT is revisiting the criticality safety evaluation for this system.