

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 17, 2001

TO: J. Kent Fortenberry, Technical Director
FROM: Paul F. Gubanc, Oak Ridge Site Representative
SUBJ: Activity Report for Week Ending August 17, 2001

Staff member Helfrich was at Y-12 this week to assist with Site Rep duties.

A. Y-12 Mercury Monitoring: Mercury contamination exists at various Y-12 locations but mostly in Building 9201-4, which is managed by DOE's environmental contractor, Bechtel Jacobs (BJC). Last week, a BJC subcontractor confirmed inadequacies with the calibration of the airborne mercury monitors used at 9201-4 and stopped work; the monitors are calibrated annually by Y-12's metrology lab. Last Friday, Gubanc learned of and elevated this concern to YAO and BWXT senior management.

1. BWXT immediately collected sufficient information to validate the concern and suspended all Y-12 use of these monitors until their technical adequacy could be reestablished.
2. BWXT located three generations of the monitor technical manual (circa 83, 89, and 92). The manuals clearly show that the original 1983 "calibration," still in use by Y-12 Metrology, was required quarterly but is now considered only a "functional check." Since 1992, annual calibration by the manufacturer, using proprietary software and equipment, is required.
3. Y-12 metrology and industrial hygiene personnel were aware that a technical issue existed earlier than last Friday but did not further investigate or elevate the concern. (1-C)

B. Y-12 Quality Evaluation (QE): On Tuesday, QE dropped an item during handling to support an inspection. Helfrich attended the critique which revealed the following:

1. The item's weight is not uniformly distributed.
2. Both ends of the item are inspected requiring that for part of the inspection the item must be supported in a heavy-end-up orientation. Practice for years has been to support the item from the bottom in an unstable orientation taking care not to move or jostle it (versus suspending it or laying it on its side).
3. With the temporary suspension on use of the walk-in hood where the work was previously performed (see reports since June 8), the operators were using a different booth. Due to the different configuration of the work location, it is necessary to move the item after being inverted. The item was dropped during one of these movements.

While the hazard identification process might have identified this dropping risk resulting from a work process change, the original technique reflected poor practices and design (i.e., unstable loads should be supported, not balanced). The critique explored the implications of these issues beyond the immediate incident and identified corrective actions to address these issues. (1-C)

C. BWXT Y-12 Corporate ISM Assessment: The team concluded that BWXT Y-12 has made significant progress in implementing ISM, but that its processes are still maturing and that Feedback and Improvement is still a problem area and has probably contributed to some of the specific issues identified during the review, such as those with field calibration. (1-C)

cc: Board Members