

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 16, 2001

TO: J. Kent Fortenberry, Technical Director
FROM: Paul F. Gubanc and David T. Moyle, Oak Ridge Site Representatives
SUBJ: Activity Report for Week Ending March 16, 2001

Outside expert West visited Y-12 to observe a BWXT Operational Readiness Review (ORR).

A. Y-12 Enriched Uranium Operations (EUO) Restart: The BWXT ORR for reduction and primary extraction pour up operations completed observations on Tuesday. The ORR team was professional and thorough. Operations were completed on schedule. Initial indication is that the team identified 6 findings (5 prestart). The prestart findings concern improper verification of valve positions, lack of calibration of remote readout of reaction vessel pressure and temperature, incomplete startup plan, incomplete/inaccurate procedures, and lack of DOE acceptance of actions taken to certify the vessels ready for use. One staff concern identified during the ORR involves the conditions to be met prior to allowing operators into the furnace area if the reaction did not occur. Currently, the temperature used is higher than that at which the initiators fire to start the reaction. EUO should be able to resolve all outstanding prestart actions to meet the scheduled start for the DOE ORR on March 26.

On a related note, we were disappointed to hear that at least one experienced reduction operator will be transferring to a different Y-12 facility for higher pay. It is unfortunate that after so much effort has gone into restarting this process, the workers aren't incentivized to stay. (2-A)

B. ORNL Building 3019B: Building 3019B is a Category 2 nuclear, inactive, hotcell facility, physically adjoining Building 3019A (U-233 repository), and managed by the DOE environmental management (EM) program since 1998. Perchlorate contamination in the 3019B ventilation ducts (3050 ppm, over six times the ORNL action limit for immediate remediation) was confirmed in 1996. Since then, DOE and contractor management have done little to further quantify or remediate this potentially shock-sensitive hazard. Over the last week, the staff identified that the consequence analysis for this hazard contains significant uncertainties (up to two orders of magnitude), that DOE was misapplying the USQ process to 3019B, and that senior DOE management was ill-informed of the hazards. In response to the staff activities, DOE on March 14 formally approved the contractor's USQ and requested a work and funding proposal by March 23 to further quantify the hazard. (3-A,B)

C. Y-12 Measurement and Test Equipment (M&TE): M&TE is that equipment which is utilized to measure, test and calibrate instruments in the field (e.g., pressure gauges). At Y-12, the M&TE is itself calibrated by the site metrology lab (under the QA division) but the ownership and use of this M&TE is the responsibility of other organizations (e.g., maintenance). Over the last few weeks, BWXT through its ISM assessment and QA division has identified the following issues:

1. The Y-12 database of M&TE lists roughly 14000 items but calibration requirements are specified for only about 30 percent. QA has requested calibration requirements be provided by April 30.
2. The BWXT ISM review identified at least one M&TE item for which no calibration data exists that was used to calibrate an OSR-related instrument. This has raised questions as to what other safety-related equipment has been measured, calibrated or tested with an uncalibrated standard.
3. Some field calibration personnel will recalibrate out-of-tolerance equipment without first reporting the failure to the owner. These invisible recalibrations defeat the equipment owner's ability to reassess the adequacy of instrumentation and its recalibration frequency. (1-C)

cc: Board Members