

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 25, 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 May 25, 2001

Staff members Blackman and Helfrich visited Y-12 to discuss safety management in design with BWXT Y-12 and NNSA representatives. Mr. Moyle was on leave Friday.

A. Y-12 Enriched Uranium Operations (EUO) - Reduction: Reduction operations were suspended on Wednesday due to uncertainty in the maximum temperature of the vessel bottom. The reduction vessels were approved for use based on a technical justification which included an assumption that the stress in the bottom will not exceed the ASME code allowable stress at 850°F (the code limiting temperature). During the first two reduction runs, temperature sensitive crayons indicated that the reactor bottom exceeded 800°F, but the maximum temperature is not known. Therefore, the safety basis assumptions were called into question. EUO personnel reacted appropriately to the discovery data and suspended reduction operations pending direction from the operational safety board (OSB). The OSB concluded that the new information does not necessarily degrade the safety margin but does change the basis for its determination. The path forward discussed includes the following:

1. An unreviewed safety question determination (USQD) will be filed for the discovery condition, and stress calculations will be prepared to support the USQD.
2. Assuming that the calculations can demonstrate adequate safety margin, the BIO will need to be revised to reflect that the integrity of the vessel bottom is supported by safety margin calculations instead of ASME code requirements.
3. More data will be collected in subsequent runs in an attempt to establish an upper bound on the temperature and support the new vessel calculations. (2-A)

B. Y-12 Disassembly: This week, BWXT declared readiness for the new disassembly campaign and on Friday the YAO Manager approved starting the NNSA Readiness Assessment (RA). The NNSA RA's field work is scheduled to occur from May 29 through June 1. (2-A)

C. Y-12 Requirements Management: On May 10, 2001, YAO formally requested BWXT to evaluate the impacts, cost and schedule to conduct a comprehensive review of the Y-12 standards and requirements identification documents (S/RIDs) to validate their accuracy. We agree with the need for such a review given recent examples of inadequacies found in the S/RIDs (e.g., Board letter dated March 15, 2001). Some BWXT managers are supportive of such a review believing that there are unnecessarily burdensome requirements in the S/RIDs. We believe this review would reveal that local implementation practices, and not the requirements themselves, are burdensome. (1-C, 2-A)

D. Y-12 Building 9210: Building 9210, known locally as the "Mouse House", is a 1940's vintage, multi-story structure, located on the Y-12 site but operated by ORNL's Biology division. The flat roof is made of reinforced concrete and is roughly 15 feet above the third floor. On May 24, a block of unreinforced concrete (approx. 6"x18"x30") fell from the roof and was caught by electrical conduit and metal lattice holding up a false ceiling in a corner lab. The origin of this unreinforced block is unknown and will be further investigated once the block is removed. Y-12 Engineering is monitoring ORNL's investigation results for potential application to other Y-12 buildings. (1-C)

cc: Board Members