

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 20, 1999

TO: G.W. Cunningham, Technical Director
FROM: Paul F. Gubanc and David T. Moyle, Oak Ridge Site Representatives
SUBJ: Activity Report for Week Ending August 20, 1999

Mr. Gubanc was on leave Monday. Mr. Moyle was on leave Wednesday. Staff member Andrews and outside expert R. West were at Y-12 this week to review a weapon disassembly program.

A. Y-12 Enriched Uranium Operations (EUO) HF Supply System (HFSS):

1. Tube Welds - In order to replace about 60 unacceptable tube welds, approximately 100 "good welds" needed to be removed. Several of these welds were destructively examined to validate visual determinations of acceptability. Unfortunately, these inspections revealed that several welds had less than 50% penetration, and LMES has now decided to replace **all** (approx. 600) tube welds on the HFSS. On a related note, LMES is still struggling to reliably make good hastelloy-to-monel tube welds and so is now considering replacing monel tubing with inconel.
2. System Testing - Testing is currently on hold as modifications are being made to the N₂/H₂ and HF preheaters. Preheater and fluidization testing may resume late next week.
3. Preheaters - There are indications that even if the current, LMES-designed, preheaters can achieve the desired gas temperatures, the reduction fluid bed heat up rate may be unacceptably long. A commercially available preheater (of a different design) has been identified to replace one of the N₂/H₂ preheaters, and is supposedly being procured as a backup.
4. Schedule - On August 20, LMES formally advised DOE that a revised HFSS startup schedule would be provided on September 3.
5. Corrective Actions - LMES previously contracted Duke Engineering Services to conduct an evaluation of LMES Engineering. The results of that review are expected out soon, and when combined with the recent LMES independent assessment of the HFSS, will certainly galvanize the need for substantive management corrective action. We have several meetings next week to discuss the progress and evolution of these corrective actions. (I-A, II-B)

B. Reduction Process at Y-12 Enriched Uranium Operations (EUO): As of Friday, EUO was still closing punchlist items and had not yet started reduction process cold operations. Accordingly, the LMES Readiness Assessment (RA) for reduction has been delayed to the week of August 30. Numerous discussions with DOE (both DOE-OR and DOE-DP) have been held this week regarding Board concerns about the type of readiness verification DOE will conduct. On Wednesday, we were advised that the DOE "oversight and assessment plan" was being revised to address these concerns. A draft copy of the revised "assessment plan" was provided today and was forwarded to DNFSB-HQ. The staff will review it with the Board as soon as we have had a chance to digest it. (II-B.2)

C. Congressional Staff Visit: On August 19, two staff members of the Senate Armed Services Committee visited Y-12 with a primary focus on understanding Y-12's modernization needs and plans. We accompanied the staff on their tour of the enriched uranium and special materials processing areas and were specifically asked to comment on Y-12 modernization, DOE and LMES project management, and safety concerns at the visited facilities. (I)

cc: Board Members