DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 9, 1999

TO: G.W. Cunningham, Technical Director
FROM: Paul F. Gubanc, Oak Ridge Site Representative
SUBJ: Activity Report for Week Ending April 9, 1999

A. Y-12 Building 9215 Ventilation: As reported last week, M-Wing high enriched uranium machining operations were suspended on March 18 pending recovery action by Lockheed Martin Energy Systems (LMES) to correct a deficient ventilation condition. On April 6, LMES instituted compensatory measures and resumed machining operations. My walkdown of the M-Wing ventilation systems on April 9 found the compensatory measures adequately implemented. Work continues to start up the new M-Wing exhaust system, which would bring the M-Wing to a negative pressure, on or before May 14, 1999. LMES currently plans to conduct its readiness evaluation of the new system the week of April 19. (II-B.1)

B. Y-12 Safety Documentation: The above M-Wing issue highlighted a building collection of underlying issues with safety documentation at Y-12. Specific examples include:

1. Both LMES and DOE have researched their records to verify the status of commitments from DOE-issued Safety Evaluation Reports (SERs). A more fundamental issue was uncovered, however, when the LMES and DOE lists of issued SERs didn't match. DOE and LMES are now working to develop a common understanding and path forward by the end of April.
2. Safety analysis within LMES is currently performed by dedicated resources within each of several line organizations. This has resulted in significant variability in the format, rigor and implementation of safety documentation across Y-12. Effective April 12, an experienced safety analysis manager from Y-12 enriched uranium operations (EUO) will take charge of a newly consolidated nuclear safety analysis organization within LMES.
3. During the Phase A restart of EUO, it was recognized by the Board staff, DOE and LMES that facility safety analyses were not always consistent with fire hazard analyses. Over the last several months, LMES has identified additional such inconsistencies (which often become positive unreviewed safety questions). I've asked for a meeting on April 12 to identify DOE and LMES understanding of the true safety vulnerabilities and path forward for resolution.

I'll continue to pursue these issues with DOE and LMES. It is important to note, however, that these issues were self-identified by DOE and LMES and they are working toward their resolution. (II-B)

C. Y-12 Hydrogen Fluoride (HF) Supply System: This week, inspectors from the Tennessee Valley Authority, contracted by LMES, conducted ultrasonic testing to verify weld adequacy of the secondary enclosure to the HF system. Preliminary indications are that only one weld will require replacement. Also this week, LMES has prepared their report of the HF System hazard evaluation, issued a draft preliminary hazards analysis and developed a list of candidate controls. It may be an appropriate time to have the staff revisit Y-12 to assess HF System safety basis development. (I-A.3)

D. Y-12 Lithium Operations: On March 31, 1999, an explosion occurred in a salvage vat where a HEPA filter was submerged in water to dissolve trapped lithium materials. On April 6, I reviewed the accident site and issues with LMES management. Key issues include loss of process knowledge, lack of hazard recognition, and procedure adequacy. LMES intends not to resume salvage operations until a formal hazards evaluation is conducted and the procedure is appropriately revised. (II-B.1.a)

cc: Board Members