

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 19, 1999

TO: G.W. Cunningham, Technical Director
FROM: Paul F. Gubanc, Oak Ridge Site Representative
SUBJ: Activity Report for Week Ending March 19, 1999

I visited DNFSB-Headquarters Tuesday to attend a Board briefing on the U-233 inspection project at ORNL Building 3019. Staff member Joel Blackman visited Y-12 Thursday to review conceptual design progress on a new highly enriched uranium (HEU) storage facility.

A. Y-12 Authorization Basis Violation: In March 1998, the DOE Y-12 Site Office (YSO) issued a Safety Evaluation Report (SER) for the revised Basis for Interim Operation (BIO) for Bldg 9215 with the provision that a deficient ventilation condition be corrected by September 1998. On March 18, YSO recognized that the contractor (LMES) had not yet corrected this condition and was still operating. Shortly thereafter, HEU machining in 9215 was suspended by LMES. On March 19, YSO formally directed LMES to: 1) correct the ventilation problem before resumption of operations; 2) review site-wide all outstanding SER conditions for compliance; and 3) evaluate how LMES tracks SER conditions and why the Bldg 9215 problem was not recognized. LMES was directed to provide their response within seven days. I will also follow up on needed YSO corrective actions. (II-B.1)

B. New Y-12 HEU Storage Facility: The existing Y-12 manufacturing plant is primarily housed and supported by facilities which are 45-55 years old. The first of several facilities envisioned to replace these aging facilities is a new HEU storage facility. Given that the conceptual design report for this facility is scheduled to be issued by May 1999, the staff conducted a review on March 18. By the end of the day it was clear that a systems engineering approach is not in place, integration amongst the designers, operations, and requirements owners (e.g., security, criticality safety) is extremely weak, and engineering formality is badly lacking. Of particular note, parametric studies are not being developed to bound design features (e.g., how much soil cover can be added to the roof before it requires fundamental structural design changes). Dr. Blackman provided numerous examples and contacts from across the DOE complex to illustrate past failures and assist Y-12's understanding of their predicament. We also debriefed the cognizant DOE Assistant Manager, the recently appointed DOE Project Director, and the LMES Vice President who stated they understood the problem. They have not yet, however, formulated their corrective actions. (I-A.3)

C. Y-12 Hazard Evaluations: On January 28, 1999, the Board sent a letter to DOE citing weaknesses in Y-12's implementation and use of hazard evaluations. LMES subsequently conducted an internal assessment which validated the Board's observation site-wide. On March 15, the LMES Vice President for Defense Programs assembled his management team, advised them of the situation and opportunities for getting properly trained, and provided strongly-worded direction for his line managers to take corrective action within the next few weeks. He also promised a subsequent independent LMES assessment to validate the effectiveness of their actions. (I-A.2)

D. ORNL U-233 Inspection Project: On March 16, DOE and ORNL committed to the Board to conduct operational readiness reviews for the first phase of the U-233 inspection project which is now planned to start in late-August. This decision was not easily reached by DOE and required significant interaction on my part to assure they appreciated the relevant requirements and hazards. (III-A.2)

cc: Board Members