

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 28, 1998

TO: G.W. Cunningham, Technical Director

FROM: P.F. Gubanc, Oak Ridge Site Representative

SUBJ: Activity Report for Week Ending August 28, 1998

Staff members Blackman, Robinson and Von Holle were at Y-12 this week to review lithium processing safety, chemical vulnerability and facility upgrade prioritization.

A. Y-12 Conduct of Maintenance:

1. On August 21, MK-Ferguson construction personnel, under the direction of LMES project engineers, relocated emergency notification speakers in Building 9215 without authorization. I will meet next week with DOE and LMES Operations and Engineering management to discuss this event and the Board's continuing concern with the control of maintenance.
2. LMES Facilities Management briefed me this week on their recognition of an increase in Y-12 lockout/tagout (LO/TO) occurrences and their efforts to reinforce LO/TO skills with their workforce. This is a laudable effort. I hope to attend one of the training classes next week.

B. Y-12 Enriched Uranium (EU) Operations: The EU metal turning machines in Building 9215 are configured to catch the EU chips and machine coolant in a "chip pan." The chip pan requires some standing coolant to quench and smother the pyrophoric EU chips. However, the pans also have a criticality safety requirement to limit coolant depth to three inches. This depth limit is satisfied by overflow holes at the required height. On August 24, a mentor observed a coolant depth of approximately five inches on an operating machine. Subsequent review by LMES identified:

1. All of the overflow holes on the machine in question were open. The machinists are required to keep this passive safety feature operable (i.e., unclogged) but are not trained on the basis.
2. Subsequent testing identified eleven machines where the holes were not sufficiently sized to preclude coolant buildup above three inches at full flow (coolant flow is normally throttled during machining). These machines will be modified and tested again before further use to assure ample overflow capacity (modifications started August 28).
3. Some chip pans are dished such that the overflow holes are 4-5 inches above the lowest point.

C. Y-12 Building 9731: Building 9731 is an original construction building which is now used for developmental pilot-scale testing. A review and walk-thru by the staff identified large amounts of excess and leaking chemicals, poor housekeeping, inattentive facility management, and an excessive fixation on the DOE-LMES jurisdictional debate over the facility's safety basis.

D. DOE-EH Radiological Controls Review: On August 18-27, a five person DOE-EH team evaluated Y-12 radiological controls. The team's conclusion overall was very positive although one major and several minor issues were identified. The one major issue involved the general lack of extremity monitoring for workers who directly handle material with beta doses of 1-2 Rem/hr on contact.

cc: Board members