

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 13, 2000

TO: J. Kent Fortenberry, Technical Director
FROM: Paul F. Gubanc and David T. Moyle, Oak Ridge Site Representatives
SUBJ: Activity Report for Week Ending October 13, 2000

Staff members Helfrich, Robinson and Von Holle visited Y-12 to review chemical safety.

A. Y-12 Chemical Safety: The Special Materials Organization (SMO) has taken some positive actions to combat an increasing trend of chemical safety incidents, several of which had as their root cause complacency with the hazards inherent in handling lithium materials. Corrective actions include:

1. Teaming junior operators with senior operators to improve their ability to identify hazards.
2. A facility-specific checklist for use with the site hazard identification walkdown procedure.
3. Required annual refresher training on Li hazard awareness (previously one-time training).
4. A rapid feedback training program to educate workers on incidents soon after occurrence.
5. Quarterly review of occurrences and assessments for emerging trends.

The staff favorably endorsed these efforts and communicated to senior management the importance of sharing these good practices with other site organizations.

The staff remains concerned about the safety risk of having fire sprinklers near certain operations involving exposed LiH. Despite contractor arguments that the sprinkler is essential to safety in a specific process location, they have not clearly identified specific fire scenarios for which sprinkler protection is required in that location. We continue to stress the need to appropriately evaluate the fire risk in a limited region of a facility against the risk of introducing incompatible materials which may contribute to a more serious consequence.

We were encouraged to learn that LMES self-identified a potential chemical incompatibility issue while preparing the EUO reduction process technical basis. Material safety data sheets identified an explosive concern when mixing LiOH with Ca. While the process does not use LiOH, the existing Li feed material had developed some surface LiOH. For operations, fresh Li will be used. (2-A)

B. Y-12 High Enriched Uranium Materials Facility (HEUMF):

1. This week, BWXT started their "challenge team" review of HEUMF. This review will occur over the next two weeks and produce a report to DOE on recommendations for further action.
2. Last week, an independent review of the HEUMF safety basis was conducted at DOE's direction. The review identified standards-based, practical and insightful observations for the HEUMF; many of which echo concerns previously identified by the staff. As a result, LMES is revising their just issued technical basis document.
3. DOE's new excepted service project manager, R.T. Brock, is due to report to Y-12 next week. These actions suggest DOE is now technically and constructively engaging in the HEUMF. (1-C)

C. Y-12 Fire Protection: On Friday, we again discussed near-term actions being taken with regard to Y-12 fire protection deficiencies. What became obvious is that LMES is adding specific resources (e.g., engineers, planners) without a definitive schedule/goal to attain. By contrast, DOE is reluctant to agree to anything that sounds like they're "accepting" non-compliance, even though that is the

current state. We've spoken with both DOE and LMES management on the need to inject some additional talent to facilitate both rigorous planning and deliberate balancing of risks. (1-C)

cc: Board Members