

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 14, 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 April 14, 2000

Staff members Bamdad, Moury, Pyatt, White, and outside expert West were at Y-12 this week to review the safety basis, instrumentation, and controls of the HF system. Moyle was on leave Friday.

A. Y-12 Hydrogen Fluoride (HF) Supply System: The staff met with contractor personnel this week to discuss in detail technical issues associated with the HF system. The meeting was productive and resulted in a significant list of issues which need to be addressed. Observations include:

1. There was little evidence of DOE engagement on a technical level in HF issues as evidenced by a lack of DOE presence in this week's review.
2. Many accident scenarios in the hazard analysis credit only mitigative safety controls (in some cases only one control is listed) because they could apply to several scenarios, even though specific preventative controls also may exist. LMES recognized our concern and indicated that efforts would be taken to credit preventative controls for safety.
3. LMES intends to classify the HF system as performance category 2 (PC-2) for evaluations of natural phenomena hazards. The staff questioned the adequacy of the PC-2 designation for a system which must provide confinement of HF. The staff will follow up on this issue.
4. There are some portions of the system which do not currently provide double containment of HF even though they may encounter HF during normal operations. Equivalent rigor in the containment of HF needs to be applied to the entire system.
5. Reliability analyses reviewed looked at the overall reliability of the system to prevent HF releases (applying both the frequency of initiating events and the probability of safety system failure on demand). Due to the difficulty in quantifying initiating events, it would be prudent to conservatively assume an accident will occur, and evaluate the reliability of the safety system to perform its intended function when demanded.

The staff recognizes that the HF system is not yet complete, and LMES has committed to pursue the majority of the issues raised this week. The staff will continue to follow the resolution of HF system issues to ensure that operations can be performed safely. (2-A)

B. ORNL Molten Salt Reactor Experiment (MSRE): In our weekly report of March 17, 2000, we identified that the MSRE program did not plan to conduct operational readiness reviews for two major upcoming activities. Based on our input, DOE line management has reevaluated its position and advised us that ORRs will be conducted for both the activated charcoal bed deposit removal activity and startup of the new UF₆ conversion facility at ORNL. Despite this change, a followup review to confirm our mutual understanding of the ORR scopes and timing is appropriate. (3-A)

C. Y-12 Funding Impacts: Due to FY2000 funding shortages, DOE and LMES have been examining means to reduce the Y-12 "burn rate." While no formal direction has yet been issued from DOE, short term measures are expected to include significant subcontractor cuts with the exception of those supporting enriched uranium restart. As a result, previously committed and ongoing corrective actions in the areas of emergency management, engineering, quality, project management, NaK accident response, criticality safety and authorization basis are expected to slide. (1-A)

cc: Board Members