

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 3, 2000

**TO:** G.W. Cunningham, Technical Director  
**FROM:** Paul F. Gubanc and David T. Moyle, Oak Ridge Site Representatives  
**SUBJ:** Activity Report for Week Ending March 3, 2000

Staff members Andrews, Pyatt, Thompson and Von Holle were at Y-12 to review chemical safety, emergency management and weapons dismantlement activities.

A. ORO Emergency Management (EM) and Chemical Safety Management (CSM): Key observations from the staff's review include:

1. DOE-ORO and its contractors have made substantial progress in executing their EM action plan whereas the CSM action plan is still in the initial stages of implementation.
2. DOE-ORO has just established a director (GS-15) position which, when filled, should assume leadership for the EM and CSM programs from the current ad hoc working groups. At this time, DOE-ORO intends only to advertise DOE-wide for this position.
3. The EM program has issued guidance for how to conduct hazard surveys and assessments to ensure consistency. Per this guidance, threshold levels have been established for when a chemical inventory can be viewed as hazardous. The EM program guidance does not appear to treat aggregate hazards, however, and the CSM guidance addresses such levels only indirectly.
4. Significant weaknesses remain in the Y-12 EM drill program and in DOE's ownership/control of both the EM and CSM program elements (e.g., training, assessments, modeling).
5. Staff members from the Tennessee Emergency Management Agency (TEMA) and Department of Environment and Conservation (TDEC) attended and were supportive of our efforts. (1-C)

B. Y-12 Contract: On February 28, DOE posted its draft Request for Proposal (RFP) for the Y-12 contract ([www.oakridge.doe.gov/Y12SEB/](http://www.oakridge.doe.gov/Y12SEB/)). Our quick review finds that: 1) interaction with the DNFSB is specifically addressed (Clause H.24); 2) nuclear facility operations are to be conducted in accordance with DOE approved authorization agreements (H.42); 3) the ISM DEAR clause is included (I.82); and the proposal evaluation criteria (Section M) specifically assign 12.5% of the overall weight to ISMS (the same as assigned to EUO Restart). (1-C, 2-A)

C. Building 9212 Fissile Material Handling Restart: The management self-assessment (MSA) began this Friday and should end next Friday, with the LMES and DOE ORRs proceeding in each of the following two weeks. LMES hopes to restart fissile material handling by March 27. (2-A)

D. Hydrogen Fluoride (HF) System: After limited review of the draft reliability analysis for the HF system we have identified some fundamental issues.

1. The reliability goal is determined by applying the double contingency principle such that two independent and unlikely events are required prior to an unmitigated release of HF. LMES equates this to 1e-4 failures per year resulting in HF releases. Given the consequences, it would seem prudent to force HF releases into "incredible" space (less than 1e-6/year).
2. The analysis only considers one 12-hour period between surveillances as relevant to the annual release probability, but fails to recognize that the system will be operated many times, and the probabilities for each 12-hour period must be summed to obtain an annual release probability.

The staff will conduct a follow up instrumentation and controls review of the HF system in April and will focus on failure modes and effects of safety equipment, and overall system reliability. (2-A, 1-C)

cc: Board Members