

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 21, 1999

TO: G.W. Cunningham, Technical Director

FROM: Paul F. Gubanc, Oak Ridge Site Representative

SUBJ: Activity Report for Week Ending May 21, 1999

Staff members Hunt, Massie, Zull and I were at ORNL to review preparations for the U-233 inspection program in Building 3019. Staff members Helfrich and Moyle, and Outside Expert Ralph West were at Y-12 to review the status of EUO Phase B Block 1 processes (hydrogen reduction, hydrogen fluoride [HF] conversion, metal reduction, and HF receipt and transfer).

A. Y-12 Enriched Uranium Operations (EUO): The status of the Phase B, Block 1 processes did not support a review of safety basis and controls implementation at this time. The authorization basis is in rough draft (about 2 weeks behind a mid-July completion) with the hazard analysis for HF processes still being developed. As a result, design changes are still being generated for the HF processes and may cause further delays. Procedures and criticality safety documentation are being developed at the same time and scheduled to complete in late July. This simultaneous production of authorization basis, procedures and criticality safety documentation has caused problems during previous startups and will require extensive review during the final stages of preparation. Concurrently, one of the three DOE EUO facility representatives will be leaving for maternity leave soon, followed by a detail in DOE-ORO (i.e., Federal Building). Lee Watkins, DOE-ORO Assistant Manager for Defense Programs, committed to filling this vacancy soon. This is important because the Fac Reps have played a key role in ensuring proper readiness for prior readiness reviews. (II-B.1)

B. ORNL U-233 Inspection Program: Key observations from this week's review include:

1. ORNL now appears to be approaching the handling of U-233 containers with a level of conservatism consistent with their data (or lack thereof) though some new safety features have not yet been worked out (e.g., upset condition ventilation, hydrogen buildup).
2. ORNL has still not developed a rigorous set of inspection criteria and technical basis for these criteria. Given that construction of most of the inspection equipment is near complete, the need for these criteria is acute. The staff has requested another round of discussions within two weeks to hopefully resolve this issue.
3. Not unexpectedly, equipment problems and operational issues continue to reveal themselves as engineers and operators test the new inspection gear. During the review, the staff identified additional safety and operations concerns with the mechanical grapple tool, the handling of liquid nitrogen (for shrinking the overpack lids), and high radiation monitoring.
4. An Authorization Agreement (AA) for Building 3019 was planned for the end of this year to coincide with a new SAR. DOE identified that the current SAR schedule does not support this timing. The staff suggested that DOE use the authorization to start the inspections at Building 3019 as a convenient point at which to establish an AA.

The current schedule would have inspections starting in September 1999. ORNL acknowledged they are 2-4 weeks behind. Given the above observations, the delay may actually be longer. (III-A.1)

cc: Board Members