

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 10, 1999

TO: G.W. Cunningham, Technical Director
FROM: Paul F. Gubanc and David T. Moyle, Oak Ridge Site Representatives
SUBJ: Activity Report for Week Ending September 10, 1999

Mr. Gubanc was on annual leave all week.

A. Reduction Process at Y-12 Enriched Uranium Operations (EUO):

1. **Readiness Assessment (RA)** - The LMES RA, which was suspended last week, is expected to resume next Monday. EUO spent this week addressing many of the initial comments received from the LMES RA team. The DOE RA has been slipped to the week of October 12.
2. **Post Start-Up Plan** - In response to an LMES RA team comment, EUO has drafted a post start-up plan which formalizes the progression from the current reactor vessels to new code compliant reactor vessels. The plan specifies where and how the temperature and pressure data will be collected during initial reduction runs. A statistician will analyze the data and determine the number of runs required to obtain a statistically significant sample with 95% confidence. Based on the data, new reactor vessels will be designed to applicable codes and standards. The plan also addresses the potential for future removal of the compensatory measure that requires the operators to exit the room during reactor firing. This mitigative administrative control has been frequently cited as justification for a lack of emphasis on preventative controls, and its removal must be carefully screened against the safety basis.
3. **UF₄ Moisture Content** - A procedural requirement is finally being implemented to address concerns that UF₄ feed may contain excessive moisture which could flash to steam and over-pressurize the reactor vessel during firing. The UF₄ blending procedure will include a prerequisite to ensure that each can of UF₄ staged for reduction contains less than 0.1 w/o water. The implementation method is not specified, but is expected initially to include sampling and laboratory analysis of all UF₄ feed material. Once the HF system is on line, however, operations expects to sample only the first several batches of "fresh" UF₄ to verify dryness and justify that fresh all "fresh" UF₄ will meet the moisture criteria. We remain concerned that any exception to conducting moisture analysis cannot be implemented without also specifying and adequately justifying a material "shelf life". (II-B.2)

B. Y-12 Hydrogen Fluoride Supply System (HFSS): Procedures for welding dissimilar metals have finally been approved, and work to cut out and reweld all HFSS tubing is expected to begin next week.(I-A, II-B)

C. Year 2000 (Y2K) Drill: On Wednesday, the Oak Ridge Emergency Operations Center participated in the DOE-wide Y2K drill. Initial indications are that the drill was generally successful, except for some minor glitches in reporting protocol. No real system failures were experienced. For Y-12, the drill included a postulated failure of the public warning system. In response to this scenario, the system owner implemented the contingency plan and made the proper notifications. (I)

cc: Board Members