

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 11, 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 June 11, 1999

David Moyle arrived Monday to start his assignment as the Board's second Oak Ridge Site Rep.

A. Y-12 Hydrogen Fluoride (HF) and Fluid Beds: As discussed last week, the HF and Fluid Bed systems which are required to support Enriched Uranium Operations (EUO) Phase B, Block 1, have recently experienced a rash of problems. Additional observations include:

1. Sintered metal filters are used in the fluid beds to keep uranium from being carried over into the off-gas system. LMES recently requested the filter vendor to supply additional filters at which time the vendor indicated he could not meet the LMES specifications. LMES is now exploring how the vendor claimed to meet the specifications on the original delivery.
2. Several thermocouples (T/C) were found to be installed with non-compatible wiring making calibration impossible. LMES is now verifying all T/C wiring and determining how it got installed.
3. An HF scrubber recirculation line broke during testing. The broken section was a short (rigid) length of small-diameter plastic pipe connecting two well-anchored carbon steel components.
4. There are about 180 open deficiency reports against the HF and fluid bed systems. Some portend more quality issues (e.g., of six air line fittings checked on April 6, all were found misassembled).
5. A December 1998 LMES assessment of the Y-12 welding program, initiated as a result of welding problems on the HF system last year identifies the following issues (among many others):
  - a. The safety significance of systems is not always clearly established.
  - b. Y-12 engineers and supervisors are not fully aware of welding and inspection requirements.
  - c. Roles and responsibilities for the welding program need to be delineated for the Y-12 engineering, maintenance and inspection organizations.
  - d. Inspectors sometimes provide verbal, technical direction to welders. Additionally, welders depend upon inspectors to measure initial setup conditions (i.e., purge gas).

The LMES internal assessment of the HF system is to examine what happened to these findings.

6. The HF Recovery manager's tasking memo makes him responsible only for developing a corrective action plan. This seems to exacerbate the already existing uncertainty over who **truly** is responsible to get this system operational: Operations, Engineering, or the Recovery Manager. Next week I will assure myself that continued testing can be done safely. (I-A, II-B)

### B. Y-12 Assembly Operations:

1. I previously reported on a late-May occurrence where uranium-bearing electropolishing solutions were transferred by operations, for nine months, without the understanding and approval of criticality safety staff. The waste has since been sampled and verified acceptable for disposal.
2. During my walk-through of the above occurrence, I identified an injection operation being conducted 70% above the authorized pressure. LMES review identified drifting of the pressure regulator as the direct cause and a product deviation was subsequently technically accepted.

On June 11, I discussed these observations with DOE management in the context of the extensive problems being experienced on the HF system. I suggested that DOE assure itself that the quality and welding problems in EUO are separate and distinct from Y-12's product assembly and acceptance processes. (II-A.1)

cc: Board Members