

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 24, 1997

**TO:** G. W. Cunningham, Technical Director  
**FROM:** R. F. Warther, M. T. Sautman  
**SUBJ:** RFETS Activity Report for Week Ending October 24, 1997

Dave Boyd was on site this week to assist in the review of the Salt Stabilization RA.

**Residue Research.** Recent demonstration and testing results for some residue treatment methods have been disappointing.

- Salts: None of the ten distillation runs for MSE salts using the new  $V_2O_5$  oxidant have met the 0.2% safeguards termination limit (STL). Although distillation results were better for ER salts, 5 of the 9 runs either did not meet the STL or contained less than 50% plutonium in the heel.
- Incinerator Ash: In order to prevent foaming during vitrification, the ash may have to be calcined beforehand to remove organics.
- Graphite Fines: SRS has been unable to produce a glass that meets recoverability criteria.
- Combustibles: The throughput may be significantly reduced since thermal desorption is taking four times as long as desired and plutonium stabilization is taking three hours. In addition, any plutonium that is coated with oil is not being oxidized.

**Salt Readiness Assessment (RA).** The K-H RA began this week. So far, K-H is avoiding many of the problems that caused RFFO and the Site Reps to be critical of recent readiness reviews. Because of the large number of issues identified, the RA has already been extended two days. The performance of the core team of process specialists and nuclear material handlers has been good. However, many building infrastructure concerns have been identified. This is disappointing since B707 is a resumption building. Many of the concerns identified below have been previously noted by the Site Reps and technical staff.

- An OSR violation on one glovebox was not discovered for several weeks
- Operators and shift managers use outdated procedures and turnover sheets
- Eight surveillance procedures may not meet OSR requirements
- The drill was a failure because of drill control problems and poor RCT response
- Workers do not understand the content of the Radiation Work Permit and its ALARA review
- Numerous fire protection deficiencies have been identified, including control of flammable gases and combustibles and adequacy of engineered features

In addition, equipment reliability continues to be an issue. Another heating element failed shortly before the RA started. During the dry run, two furnaces could not be used because the stirrer blades broke on one and the thermocouple could not be inserted into the other one.

**Shift Manager Requal Board.** The Site Reps observed a Shift Manager Qual Board in B771. The scope of the Requal Board was limited to activities currently underway in the facility. It did not include D&D activities and activities associated with BFO implementation scheduled for December 31. In spite of the limited scope, the candidate was not successful. Additionally, B771 personnel are in the midst of a major reorganization within the facility. Virtually all non-union positions have been posted. (see weekly reported dated 10/10/97).

cc: Board Members