

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 22, 1997

TO: G. W. Cunningham, Technical Director

FROM: R. F. Warther, M. T. Sautman

SUBJ: RFETS Activity Report for Week Ending August 22, 1997

Herb Massie was on site with Dr. Bidinger (OE) to review readiness for salt stabilization activities. Joe Leary attended the meeting among RFFO, LANL and K-H.

Solutions RA. K-H completed the Readiness Assessment to transfer Pu solutions from B771 to the B371 CWTS this week. Nine pre-start and two post-start findings were identified. Procedure development, validation, and verification were weak. This is a recurring deficiency in virtually every readiness review conducted over the past two years. Other pre-start findings addressed the level of knowledge of operations and operations support personnel, conduct of operations, inconsistencies between the authorization basis and Activity Control Envelope, and documentation of contingencies in criticality safety evaluations. The RFFO RA oversight team identified several additional pre-start findings that the K-H RA team did not identify. Two of the RFFO findings concerned the adequacy of K-H's review of emergency preparedness and criticality safety. K-H has committed to resolve all the pre-start findings prior to initiating work. K-H also is reviewing the RA process to assess its effectiveness in light of the number of recurring deficiencies.

Metal and Oxide. Over the last couple of months, RFETS has been exploring the possibility of accelerating shipments of RFETS Pu metal and possibly oxide to SRS before bringing the Pu into compliance with the 3013 standard. This action would require a modification to the EIS ROD, which only allows 3013-compliant Pu to be shipped to SRS from RFETS. Based on feedback during a recent staff brief to the Board on a similar Hanford proposal, the Site Reps informed K-H that any shipments of Pu to SRS that would delay 3013 compliance past May 2002 may not be viewed favorably by the Board.

LANL Visit. Dr. Sig Hecker was on site on Tuesday to discuss LANL's position on STLs, treatment and disposition of Pu residues from RFETS, and potential opportunities for accelerated closure. The meeting lasted the entire day. Summary remarks from this meeting are included as an attachment.

B371 Ventilation Testing. SSOC secured ventilation in B371 on Friday to remove an automatic transfer switch. During this planned out of tolerance condition, the backdraft dampers were inspected and videotaped. The results of the inspection will be reviewed and discussed in detail during the Board staff review of the B371 BIO because K-H needs to be able to demonstrate its ability to isolate the building.

cc: Board Members

Attachment I

Summary Remarks From DOE-HQ, RFFO, K-H and LANL Meeting

Attendees. Dr. Sig Hecker, Jessie Roberson and Bob Card hosted the meeting. Other attendees included Keith Klein, Dave Lowe, Paul Golan and Hank Dalton from RFFO. Gary Voorheis and Allen Parker from K-H attended. Roger Bacon and John McKibben from SSOC attended. Paul Cunningham, Dana Christensen Randy Erickson, Bruce Erkkila and Terry Helm from LANL participated. Approximately 40-50 other individuals also attended.

Introductory Remarks. Dr. Hecker opened the discussion by stating the LANL mission. He articulated three points. First, LANL remains responsible for ownership of weapons and stockpile stewardship. Second, LANL is concerned with proliferation issues. Third, LANL feels responsible to address nuclear legacy issues, which includes demonstrating leadership with the Soviet Union. This third point is related to specific values for Safeguard Termination Limits. Additionally, Dr. Hecker stated his concern that decisions at RFETS to accelerate cleanup by direct disposal of residues could adversely impact the complex.

Specific Topics. The following topics were discussed in detail:

- Disposition of RFETS residues
- D&D of TA-21
- Breakthrough opportunities

These topics are discussed in more detail in the following paragraphs.

DISPOSITION OF RFETS RESIDUES This discussion occupied most of the morning. The discussion centered around residues as an asset or liability. The RFETS position is that residues are not an asset and are to be removed from the site as quickly as possible, possibly disposing of them at WIPP in accordance with WIPP-WAC and STL variances. LANL's position is that residues should comply with the existing STLs. These STLs could be met by immobilization or separation. If separation is selected, the Pu would be used for MOX fuel or vitrified with high level waste. Other key discussion points on this topic included the following:

- The RFETS mission is to remove nuclear material from the site and close the site within ten years. RFFO and K-H are receptive to plans that alter the current baseline, but only to the degree they are consistent with the site's mission.
- Options that deviate from the baseline plan are contingent on cooperation from many other organizations and individuals that historically have not been dependable.
 - Paul Cunningham made the point that transportation within the complex is not dependable. Roberson and Card agreed, and view that this lack of dependability would detract from the site meeting its mission.
 - DOE-HQ has not shown any leadership with regard to getting national issues resolved. Although not specifically stated, implied issues include resolving transportation problems, completing Environmental Impact Statements, and opening WIPP.
- LANL stated that they were opposed to DOE granting STL variances or increasing the current limits for two reasons. First, it would not demonstrate leadership to the Soviet Union. Second, DOE has been working on public relations campaigns to communicate to residents of New Mexico that drum shipments to WIPP would be safe. LANL is concerned that any changes to the shipping contents or containers would result in public relations problems.

They did admit that alternatives (e.g., placement of residues in a pipe component) would not result in any increased risk to the public.

- LANL proposed that Cl⁻ based residues (i.e., the residue salts that exceed STLs) be shipped to LANL for separation and further disposition. The nitrate based residues would be sent to SRS for processing in the canyon and subsequent use as MOX fuel or vitrification with high level waste. A couple of key points regarding this proposal should be noted:
 - It is not clear how quickly this alternative could be implemented based on the reported transportation issues within the complex
 - LANL processing capacity may not support RFETS' ten year schedule
 - LANL staging and vault capacity may not support RFETS' ten year schedule
 - LANL personnel stated that they would consider delaying completion of LANL 94-1 milestones to process RFETS residues because RFETS residues are higher risk.

The meeting ended with commitments by K-H and LANL to identify cost, schedule and other issues that would contribute to or detract from implementation of this approach.

D&D OF TA-21 Larry Byars of LANL presented lessons learned from D&D of TA-21 at LANL. Three points were noted. First, the work was completed under the site health and safety plan, not a specific authorization basis. Second, regulator involvement was minimal. Although not specifically stated, LANL implied that minimal authorization basis efforts and regulator involvement contributed to the success of this project. The third point was that many of the ventilation ducts for this building were located outside the plant above ground. During D&D, this ventilation duct was cut up, the ends isolated and packaged as waste without the use of a containment. The Board staff is evaluating if this approach will be adequate for RFETS.

BREAKTHROUGH OPPORTUNITIES The discussion concluded with potential breakthrough opportunities between LANL and K-H. Some items discussed included the following;

- Review the possibility that eU hemishells, currently being decontaminated at RFETS with some problems, can be shipped to SRS, dissolved in the canyons and converted to LWR fuel
- Review Long Range Alpha Detection (LRAD) capability and determine if this instrument could be used to free release RFETS material rather than disposing of the material as LLW
- Establish a meeting among senior personnel in DOE, State Department and others agencies to resolve issues with STLs, EISs, and other issues that impact operations in the complex
- Evaluate use of size reduction capabilities at LANL for application at RFETS
- Reorganize the LANL/RFETS interface to streamline lines of authority and control. The onsite LANL manager may be given more authority under the new structure.