

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 3, 1997

TO: G. W. Cunningham, Technical Director
FROM: R.F. Warther, M.T. Sautman
SUBJECT: RFETS Activity Report for Week Ending January 3, 1997

This week's report is fairly short because most hourly workers and employees were on vacation. Two attachments are provided. Attachment 1 summarizes risk reduction achieved at RFETS during CY97. Attachment 2 contains a list of RFETS issues that the staff anticipates will require attention during CY97. Attachment 2 was developed by the site reps and cog engineer (Kasdorf). It was previously provided to the Board during the site rep visit in November 1996.

Budget. The site budget was approved at \$538 million. The following pie graph represents this budget and is based on an analysis by one of the RFFO Assistant Managers. The following describes these costs:

- Legacy costs include items such as radiological and beryllium health studies.
- Fixed activity costs include items such as mortgage costs of buildings, security, taxes and insurance and utilities.
- Urgent risk reduction costs are primarily associated with Recommendation 94-1 activities
- Corporate operating costs include costs for the integrator, personnel costs, overhead and similar expenses
- Enforceable compliance costs are those items primarily associated with CDPHE requirements, including air and water surveillances and monitoring.
- Risk reduction and site closure expenses are related to building closure, shipment of hazardous materials off site and analogous expenses.
- Other operating costs are those items that include upgrades to infrastructure.



cc: Board Members

Attachment 1

This attachment briefly lists many of the risk reduction activities completed in CY 1996. This list is not complete. Additionally, many of these activities had associated with them safety issues at the time. For example, Trenches 3 and 4 are listed here as complete. However, the Emergency Operations Center was activated at one point during the remediation of these trenches because of a concern for a U-238 release.

- Shipped 2700? of uranyl nitrate to Erwin, TN
- Vented all residue drums
- Initiated venting TRU drums
- Completed brushing all Pu metal items
- Drained 11 Pu solution tanks (ten from B771 and one from B371)
- Stabilized over 1000 liters of Pu and U solutions
- Initiated hydroxide processing in B771
- Initiated processing using the Caustic Waste Treatment System
- Initiated cementation of resins from ion exchange columns of Building 771

- Completed washing acid-contaminated leaded rubber gloves in B776
- Sampled and/or purged 49 tanks with hydrogen buildup
- Completed T-Line column joint repair in B371 for seismic upgrades
- Removed Category I and II Special Nuclear Material (SNM) from Buildings 991 and 779. A small number (<10) of liquid containers remain in B779
- Completed leak tests for fire, crush, and drop tests on the pipe component which will be used to store treated residues
- Shipped over 35,000 cubic feet of low-level mixed waste shipped off site
- Shipped nearly 4,000 cubic feet of low-level waste off site
- Shipped 18 pieces of Stockpile Reliability Equipment off site to Los Alamos National Laboratory
- Decommissioned Building 889, a former uranium facility
- Replaced substation electrical 555/558
- Completed remediation of Trenches 3 and 4 and "Ryan's Pit," a former chemical waste dump.
- Stabilized 28 underground storage tanks by filling them with a polyurethane foam
- Removed the two large fuel oil tanks which had been used to store reserves of fuel oil.

Attachment 2

Calendar Year 1997 Issues at RFETS

The tables that follow include a minimal set of reviews, and are not necessarily intended to be all inclusive. Two points should be made. First, the text under the header issue provides only limited information for the scope of a detailed review. It does not limit the scope of a review. Second additional issues are expected to be uncovered during the year.

Table I

Public Risk Reduction Activities

Resolution of the following issues will result in a reduction of risk to the public and environment.

Public Risk Reduction Activities	Issues Associated with Functional Area
Draining and oxalate precipitation Scheduled to complete precipitation 9/98	<ol style="list-style-type: none"> 1. AB and procedure development and implementation 2. Operator training and conduct of operations 3. Criticality controls
Review SNM Safe Storage Mission - Adequacy of material storage form at RFETS	<ol style="list-style-type: none"> 1. Technical basis for HSP 31.11 revision 2. Thermal stabilization and LOI testing of Pu oxide 3. Stabilization of oil-covered Pu metals 4. Residue preparations and stabilization <ol style="list-style-type: none"> a. Rebaselining efforts <ol style="list-style-type: none"> i. Technical justifications of new treatment processes ii. Impacts of new processes and EIS to 94-1 Commitments iii. Design reviews of new processes b. Baseline efforts <ol style="list-style-type: none"> i. Reviews of final designs ii. Review of new characterization data and treatment studies iii. Review of readiness to start operations
Review SNM Safe Storage Mission - Adequacy	<ol style="list-style-type: none"> 1. Pipe component - Nuclear safety authorization to

<p>of material storage packaging and packaging capability at RFETS</p>	<p>exempt pipe material from building MAR</p> <ol style="list-style-type: none"> 2. 3013 containers <ol style="list-style-type: none"> a. Review test data for compliance with 3013 b. Review steady state temperature for package system 3. Plutonium Stabilization and Packaging System <ol style="list-style-type: none"> a. PuSAP design and throughput b. J Module preparations and PuSAP installation c. Operator training and readiness to begin operations
<p>Review SNM Safe Storage Mission - Adequacy of material storage facilities at RFETS</p>	<p>The focus of the reviews should include prevention or mitigation of release following fire or natural phenomena</p> <ol style="list-style-type: none"> 1. B371 Upgrades 2. ISV design 3. TRU and LLW storage facilities (the following is a minimum set) <ol style="list-style-type: none"> a. B440 b. B664 c. Centralized Waste Storage Facility (906) 4. Thorough "ORR-type review" of readiness of B371 or ISV to store material <ol style="list-style-type: none"> a. Fire Protection program b. Con Ops program c. Training d. Maintenance of safety systems
<p>Reduce hazards at RFETS - Transfer material to other locations</p>	<ol style="list-style-type: none"> 1. Pits to Pantex (and labs) 2. eU hemishells to Oak Ridge 3. Metal and oxide (and scrub alloy) to SRS 4. TRU to WIPP

**Table II
Worker Risk Reduction Activities**

These issues are generally activity-based, and not specific to a building. Over the next year, most of these activities are expected to occur in Buildings 886, 779 and 771 . Resolution of the following issues will result in a significant reduction of risk to the worker over the long term. In the short term, worker risk may increase as a result of the activities.

Worker Risk Reduction Activity/Issue	Issues Associated with Functional Area
Develop/review end points criteria	
Review building characterization efforts, including SNM survey effectiveness and rigor	
Evaluate procedures to remove SNM holdup	<ol style="list-style-type: none"> 1. SNM removal from holdup areas (e.g., filters, elbows, machining equipment) 2. Tap & drain AB
Glove box deactivation activity	<ol style="list-style-type: none"> 1. AB and procedure issues 2. Concept of activity AB - an AB that would be mobile among buildings 3. Stripout and size reduction issues

Tank removal activity (including raschig rings)	<ol style="list-style-type: none"> 1. AB for tank removal activity 2. Disposal
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Table III
Miscellaneous Issues for Review

These issues generally are related to specific functional areas of the safety envelope or authorization basis for the operation or activity. They generally are cross-cutting issues that probably affect the activities or facilities listed in the preceding tables.

Risk Reduction Activity/Issue	Issues Associated with Functional Area
Criticality Program	<ol style="list-style-type: none"> 1. Criticality work backlog and impacts on risk reduction activities 2. Methodology to establish controls, including conformance to ANSI stds 3. Effectiveness of CSO
Recommendation 95-2 and Authorization Basis	<ol style="list-style-type: none"> 1. AA for B771 BFO scheduled for signature 3/97. 2. AA for B371 BIO scheduled for signature 6/97. 3. Ensure documents and implementation are adequate, including inclusion of worker protection controls into procedures or other agreement documents. 4. Review ACEs and other AB documents TBD (e.g., 707?) 5. Implementation of standards and maintenance of infrastructure programs supporting implementation
Ventilation Review	<p>Follow-up from previous reviews on the ventilation system. Follow-up on paper/issues developed by DOE-HQ</p>
Facility Rep Program	Evaluate effectiveness, integration with balance of RFFO
RFFO Qualification Program	
Shift Manager and STA Qual Program	