



**Department of Energy**  
Albuquerque Operations Office  
Los Alamos Area Office  
Los Alamos, New Mexico 87544



MAY 13 1997

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Benito Garcia, Chief  
Hazardous and Radioactive Materials Bureau  
New Mexico Environment Department  
2044 Galisteo St., Bldg. A  
P. O. Box 26110  
Santa Fe, NM 87505

Dear Mr. Garcia:

Subject: FY 1997 Second Quarterly Progress Report, Consent Agreement for  
Compliance Orders NMHWA 93-01, 93-02, 93-03, and 93-04

Enclosed for your review is the FY 1997 second quarterly progress report for the Transuranic Waste Inspectable Storage Project (TWISP) at Los Alamos National Laboratory (LANL). The report is required by Section IX.C of the referenced December 10, 1993 Consent Agreement. It is being submitted by the Department of Energy (DOE) and the University of California (UC).

The enclosed report addresses the activities related to the TWISP during the reporting period of February 1, 1997 through April 30, 1997. The following elements, as required by the referenced Consent Agreement, are addressed in the enclosed report:

- I. A brief description of activities completed during the reporting period to implement the requirements of the Consent Agreement.
- II. A brief description of activities scheduled for the following reporting period.
- III. A description of any change in key project personnel which occurred during the reporting period.
- IV. A description of problems encountered during the reporting period and mechanisms used or proposed for resolving the problems.
- V. Tables and figures summarizing all data, sampling and test results for the period.



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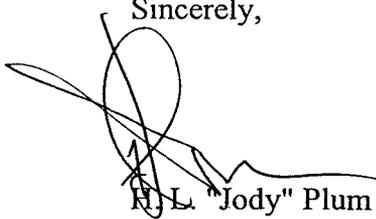
Benito Garcia

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Supporting documents will be retained at the Los Alamos Area Office (LAAO) and will be made available to your staff upon request. As you can see, there has been significant progress. We will continue to keep you apprised of the progress per our agreement. If you should have any questions, please feel free to contact me at (505) 665-5042.

Sincerely,

A handwritten signature in black ink, appearing to read "R. L. 'Jody' Plum". The signature is stylized with a large loop at the beginning and a long horizontal stroke at the end.

R. L. "Jody" Plum

Office of Environment and Projects

LAAMEP:3JP-041

Enclosure

cc w/enclosure:

Stuart Dinwiddie

Hazardous and Radioactive Materials Bureau

New Mexico Environment Department

2044 Galisteo St., Bldg. A

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Santa Fe, NM 87505

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**TRANSURANIC WASTE INSPECTABLE STORAGE PROJECT  
QUARTERLY PROGRESS REPORT  
FEBRUARY 1, 1997 - APRIL 30, 1997**

The transuranic (TRU) Waste Inspectable Storage Project (TWISP) was initiated in February 1993 in response to the New Mexico Environment Department's (NMED's) Consent Agreement for Compliance Order NMHWA 93-03. The TWISP involves the recovery of approximately 16,865 TRU and TRU-mixed waste containers currently under earthen cover on Pads 1, 2, and 4 at Technical Area (TA)-54 Area G, and placement of that waste into inspectable storage. All waste will be moved into inspectable storage by September 30, 2003. Waste recovery and storage operations will emphasize protection of worker safety, public health, and the environment.

**I. Activities accomplished during the period February 1, 1997 - April 30, 1997**

**1. Summary**

- The Detailed Operating Procedure for the Drum Venting System (DVS) was completed and approved. A training program for the operation of the DVS was established. DVS operators have been trained. All training requirements were met.
- The systems maintenance procedure for the DVS was completed and approved. Training to this procedure was completed.
- The DOE-AL ORR team completed the Operational Readiness Review of the TWISP. All six DVS Pre-Start findings were closed out in April.
- Amendments to the TWISP Remedial Action Plan were submitted to the NMED for approval. NMED approved the Amendments, therefore, the RAP pre-start finding was closed out.
- TWISP began retrieval operations on March 25, 1997.

**2. TWISP Facility Construction**

The dry pipe fire suppression system was completed. Testing and fine-tuning of the system continue. The dry pipe fire suppression system installed in Domes 226, 229, 230 & 33 continues to experience significant problems. Due to the flexibility of the structures themselves, the piping system has experienced movement at the joints which is allowing the nitrogen gas to escape, and as designed, when the gas escapes the system charges with water. This movement has also resulted in pipes resting at a negative slope which has caused pipes to become frozen, requiring shut down of the system while repairs are made and the system is drained, re-pressure tested and refilled with nitrogen. Depending on the outcome of these corrective measures, an estimate will be produced and a BCP submitted to cover the increase cost.

## Corrective Actions:

Alliance Fire Protection Company (installation contractor) has corrected the slope in the piping so positive sloping can be maintained for adequate drainage. The pipes will be spot checked (after a wind storm) to verify proper sloping. A meeting was held February 4, 1997 to plan further actions required to put the system back into operation. Flexible joints had previously been proposed by the engineer of record and rejected by the Facilities Fire Protection group (FSS-21) due to lack of approval by Underwriters Laboratory (UL).

### **3. Waste Analysis Plan (WAP)**

The status of the Mixed Transuranic Waste Analysis Plan (MTRU WAP) submitted in March, 1995, to obtain conditional approval of the TWISP was discussed with the NMED Hazardous and Radioactive Materials Bureau (HRMB) on April 15, 1997. The MTRU WAP is substantively the same as the version approved by NMED on February 28, 1997 in connection with the TA-50 Waste Characterization Reduction and Repackaging Facility/Decontamination Facility (WCCRF/DF), TA-54 West Radioassay and Nondestructive Testing (RANT) Facility RCRA permit modification. HRMB has requested that its legal office review the MTRU WAP approval issue in order to include the MTRU WAP into and formally approve the TWISP RCRA permit modification. No deadline was provided for that legal review. HRMB stated that, for now, compliance with the TWISP permit modification as submitted and modified with NMED was acceptable in order to meet the NMED Consent Agreement milestones.

### **4. Operational Readiness Review (ORR)**

The LANL and DOE-AL Operational Readiness Review were completed. Pre-start findings were addressed and closed out on April 11, 1997.

### **6. Drum Vent System**

The Drum Vent System (DVS) is complete. Because this DVS was not able to be used at Rocky Flats as originally planned, LANL incorporated the DVS into the TWISP Operational Readiness Review. Training of DVS operators was completed.

### **7. Equipment Purchasing**

No major procurements.

### **8. Update on Waste Verification Facilities**

Development of new waste characterization processes to supplement existing process knowledge is ongoing. A brief description of planned facilities and equipment is provided below:

- **Drum Prep Facility:** Upgrades to the Drum Prep Facility have been completed. The dry pipe fire suppression system has been completed. Testing and validation is ongoing.
- **Waste Characterization Glovebox, Phases I (sorting), II (coring), and III (head space analysis):** A glovebox is now on site for use in Phase I activities. Ancillary equipment design for the Phase II glovebox has been completed.
- **Waste Characterization, Reduction and Repackaging Facility (WCRRF) upgrades for verification of hazardous constituents:** The Safety Analysis Report has been approved, and is in the process of being implemented.
- **Real-time Radiography (RTR) for non-intrusive inspection of drum contents:** The mobile RTR was delivered in January of 1996. The mobile RTR system has been used successfully to inspect 630 drums currently stored in TA-54, Dome 48.
- **Segmented Tomographic Gamma Scanner (S/TGS) to quantify isotopic content of drums:** The Laboratory now has an operational mobile S/TGS that has been used at a variety of Laboratory sites. The S/TGS was augmented with additional software to give it tomographic gamma scanning capabilities.
- **Passive active Neutron Assay (PAN):** The PAN is fully operational for assaying Pu-239 and U-235.

#### **9. RCRA Permit Application Activities**

NMED final approval of RCRA permit modifications for TWISP and supporting operations remains on the critical path for the project. The TA-50 WCCRF/DF and TA-54 West RANT RCRA permit modification for temporary storage areas at waste characterization facilities was approved by NMED on February 28, 1997. NMED's final approval of the TWISP permit modification is currently being reviewed by NMED legal staff as discussed in Section 3. No date has been provided by NMED for completion of that review. Additional waste characterization capacity has also been requested in the TA-50 Radioactive Materials Research, Operations, and Demonstration Facility RCRA permit modification request submitted to NMED in December, 1996.

## **II. Activities scheduled for the period May 1, 1997, through July 31, 1997**

1. The JCI labor crew is fully mobilized and retrieval of waste from Pad I will continue.
2. The enhanced environmental surveillance of the TRU Pad area will continue.
3. Work will continue at the waste verification facilities.
4. Construction of storage domes C and D will be completed.
5. Reliability of fire suppression system will continue to be evaluated.

6. The DVS will be fully operational.

**III. Changes in key personnel during the period February 1, 1997 - April 30, 1997**

No changes occurred.

**IV. Problems encountered during the period February 1, 1997 - April 30, 1997**

The dry pipe fire suppression systems installed in Domes 226, 230 & 33 have experienced significant problems. Due to the flexibility of the structures themselves, the piping system has experienced movement at the joints which is allowing the nitrogen gas to escape, and as designed, when the gas escapes, the system charges with water. This movement has resulted in pipes resting at a negative slope which has caused pipes to become frozen, requiring shut down of the system while repairs are made and the system is drained, re-pressure tested and refilled with nitrogen. Depending on the outcome of these corrective measures, an estimate will be produced and a Baseline Change Proposal (BCP) submitted to cover the increase cost.

**Corrective Actions:**

A meeting was held on April 2, 1997 to address the problems with the system. Alliance Fire Protection Company (installation contractor) is working at correcting the slope in the piping so positive sloping can be maintained for adequate drainage. Upon resloping, the pipes will be spot checked (after a wind storm) to verify proper sloping. Flexible joints have been proposed to correct leakage of gas from the system, however, this type of joint had previously been proposed by the engineer of record, and rejected by FSS-21, Facilities Fire Protection due to its lack of Underwriters Laboratory (UL) approval.

**V. Summary of monitoring during the period February 1, 1997 - April 30, 1997**

No new survey data is available.