

CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES

TRIP REPORT

SUBJECT: WASTE SOLIDIFICATION SYSTEM FOR WEST VALLEY DEMO PROJECT

DATE/PLACE: DECEMBER 17-19, 1990
WEST VALLEY, NEW YORK

AUTHORS: PRASAD K. NAIR
GERALD A. LAMPING
HENGAMEH KARIMI

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PERSONS PRESENT: See attached list of Persons from the NRC, DOE, NYSERDA, and WVNS.

BACKGROUND AND PURPOSE OF TRIP:

The Division of Industrial and Medical Nuclear Safety (NMSS) has established a Program Element at the CNWRA to provide technical assistance support for the evaluation of safety of the Waste Solidification systems at the West Valley Demonstration Project (WVDP) under Mr. Davis Hurt. Three tasks have been assigned to CNWRA for performance in Fiscal Years 1991 and 1992. The purpose of the trip was to review the status of activities at WVDP and to understand the proposed plans for waste solidifications systems that are being installed at the site. CNWRA and NRC staff members were given an overview of the project status, proposed plans, and a site tour by personnel from the West Valley Nuclear Services Company, INC. (WVNS), which is the operational contractor at the site. The presentation agenda is attached for the trip.

SUMMARY:

WVNS has proposed a plan to remove the high-level radioactive wastes from several underground storage tanks at the site by solidifying the liquid wastes in concrete (drums) and the solid wastes in glass (logs).

The liquid wastes solidifications process so far has produced over 10,000 drums which are being stored at the site. The liquid solidification process has been placed on standby operation while WVNS performs an evaluation concerning the transport of Plutonium into the low-level waste processing cycle (IRTS).

The solid high-level wastes solidification process so far has been designed and 35% of the construction of the Vitrification System has been completed. This system will mobilize and vitrify the sludge in the three storage tanks. An intermediate step in this solidification process is to wash the sludge through a Zeolite Ion Exchanger to reduce the amount of sodium sulfates in the final feed product to the glass melter. WVNS plans to start the sludge washing task in June of 1991. The CNWRA is to prepare a draft Safety Evaluation Report (SER) on the sludge washing system by February 28, 1991, and have a final SER by May, 1991.

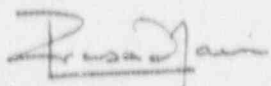
CONCLUSIONS:

The Supernatant Treatment System (STS), which is processing the liquids in the storage tanks, has been in operation since 1988 and should be able to continue the processing of low-level waste products. The main concern presently is the question about the location of 350 grams of Pu in the Integrated Radwaste Treatment System (IRTS). The resolution of this concern could delay the start-up date of the sludge washing activities.

PENDING:

A letter report containing an outline of the sludge washing system SER is due January 15, 1991 to the NRC Program Element Manager, Davis Hurt.

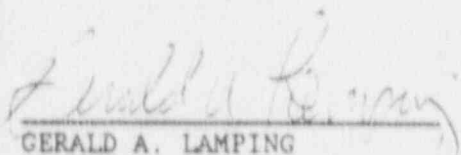
SIGNATURES:



PRASAD K. NAIR

12/28/90

DATE



GERALD A. LAMPING

1/2/91

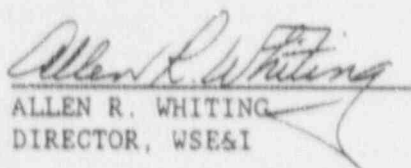
DATE



HENGAMEH KARIMI

12/28/90

DATE



ALLEN R. WHITING
DIRECTOR, WSE&I

1/2/91

DATE

December 18, 1990
West Valley, New York

<u>NAME</u>	<u>ORG.</u>
MARK SCHIFFHAUER	WVNS Co.
GERALD WAMPING	CNWRA - SWRI
PRASAD NAIR	CNWRA - SWRI
HENGAMEH KARIMI	CNWRA - SWRI
BARRY SISKIND	Brockhaven National Laboratory
Mary Thomas Adams	USNRC - NMSS
DAVIS HURT	USNRC - NMSS
Michael TOKAR	NRC - NMSS
GARY COMFORT	USNRC - NMSS
Sid Halburon	NYSERDA
JOE JOHNSON	D & M (WVDP)
Dave Fauth	WVNS Co.
Ted Soontay	NYSERDA
JAMIE PROUSE	D & M (WVDP)
W. STEPHEN KETOLA	U.S. DOE - WVPO FTS 473

Presentation Agenda
R. Davis Hurt
Nuclear Regulatory Commission

December 17, 18, & 19, 1990
Conference Room C



Monday, December 17 - DOE Conference Room

1:00 Arrive on-Site - R. Davis Hurt & Gary Comfort
- Security Film

1:10 Technical Discussion:
- Proposal to Include NRC as Cooperative
Agency in Phase II EIS
- NRC Site Characterization Plan Comments
- EIS Closure Alternatives

G. G. Baker
S. G. Harbison
D. H. Kurasch
C. Ljungberg
D. J. Markley
P. C. Newsom
R. B. Provencher
S. J. Szalinski
P. Van Loan

4:45 Depart Site

Tuesday, December 18 - Conference Room C

8:00 Arrive on Site - NRC Group
- Security Film - Conference Room C
- Coffee and Donuts

8:15 Introduction
Project Overview

A. Yeazel
R. E. Lawrence Jr.

8:45 Sludge Wash Process
- Overview
- Process Description
- Comparison to IRTS Processing

M. A. Schiffhauer

10:00 Site Tour Route

R. E. Lawrence Jr.
S. Ketola
A. Yeazel

10:00 1/6 Scale Model Tank - T&S Building
10:10 Analytical Labs - Sludge Wash Video
10:30 CVA Survey Out
10:35 Tank Farm Drive-By
10:40 STS
11:00 Survey Out
11:05 LWTS/CSS Control Room
11:35 Drum Cell

Tuesday, December 18 - (con't)

12:00	Lunch On-Site - Conference Room C	
1:00	Technical Discussion & Optional Tours <ul style="list-style-type: none">- Certification of Low-Level Waste- Overview- Sludge Wash Studies- CSS Past Actions & Future Plans	D. Fauth F. T. Hare F. T. Hare
3:00	NRC Low-Level Waste Personnel - Depart Site Break	
3:15	Sludge Wash - SAR Addendum <ul style="list-style-type: none">- Confinement Barrier Analysis- SAR Accident Analyses	M. A. Schiffhauer J. J. Prowse
4:45	Depart Site	

Wednesday, December 19

8:00	Coffee and Donuts	
8:15	Current IRTS Status	J. C. Cwynar/ P. J. Valenti
8:45	Sludge Wash - SAR Addendum	J. J. Prowse M. A. Schiffhauer
11:00	Closeout with Project Office	
12:00	Depart Site	

West Valley Demonstration Project



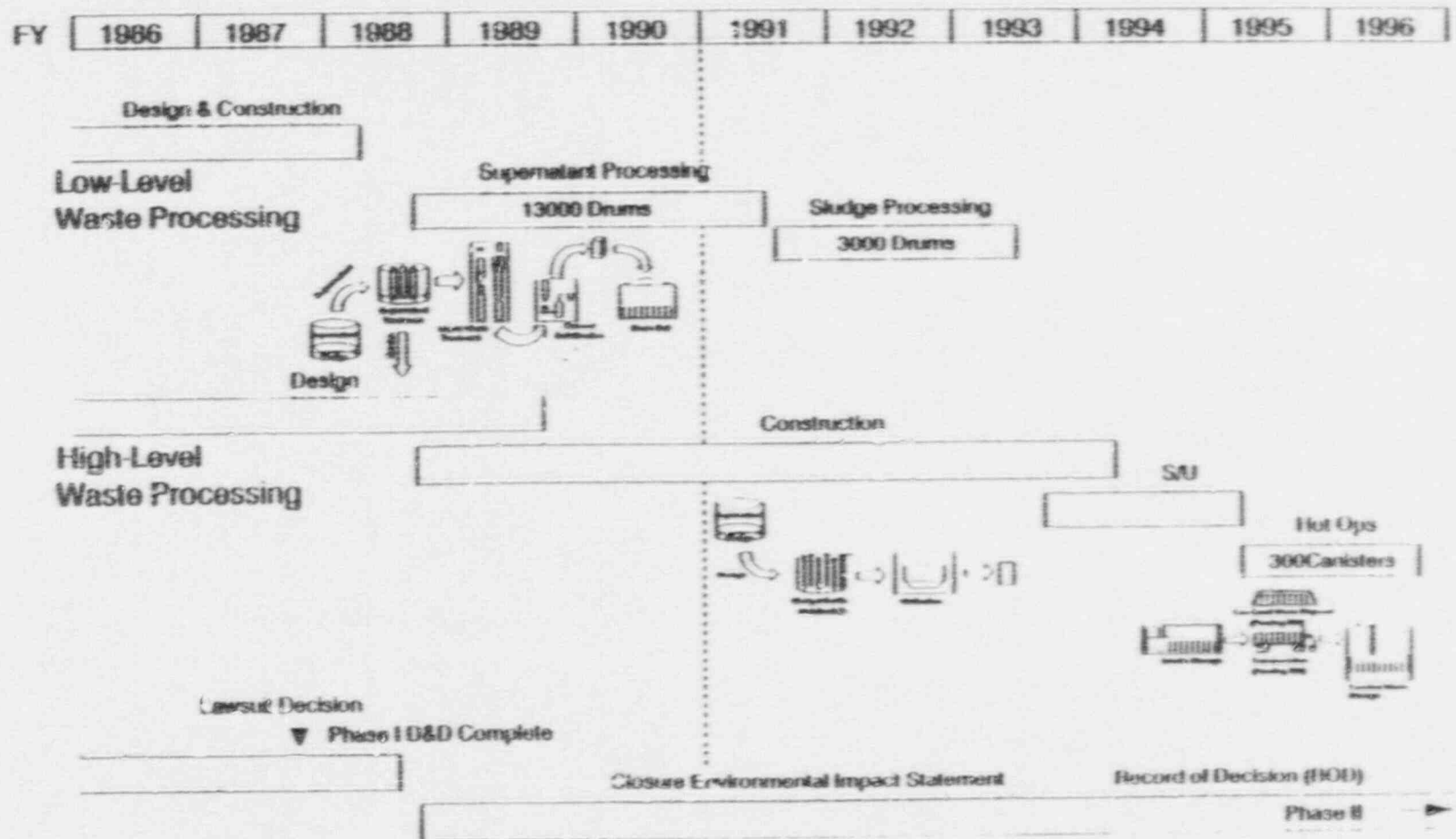
Status

- **Supernatant Treatment 75% Complete**
 - 414,00 Gallons Processed
 - 10,000 Drums Produced
 - 5.20×10^6 Ci Cesium Removed

- **Completed Vitrification Full-Scale Test Program**
 - 45-Day Remote Run
 - Waste Acceptance Specification Accepted
 - Waste Compliance Plan Issued

- **Vitrification Construction 35% Complete**

SUMMARY MASTER SCHEDULE



West Valley Demonstration Project



Safety Analysis Report Schedule

<u>Activity</u>	<u>FY QTR Completion</u>
Sludge Washing	91/2
HLW Transfer	92/3
HLW Waste Interim Storage	93/2
Vitrification Facility (final)	93/2

Expectations



Environmental Impact Statement

- **Review and Discuss WVDP Concepts and Proposed Solutions**
- **Timely Review to Aid Project in Keeping on Schedule**

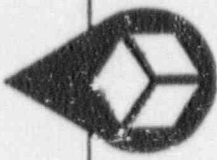
HLW Process

- **Safety Analysis Review**
- **Safety Evaluation Reports**

Regularly Scheduled Meetings

- **Maintain On-Going Communication**
- **Keep Forward Momentum**
- **Know the Players**
- **Keep Teams Intact**

West Valley Demonstration Project



Anticipated NRC Interactions

<u>Subject</u>	<u>Key Interactions</u>	<u>Proposed Milestones</u>
- Pre-SAR Sludge Wash Review	December 1990	
- LLW Form Review	December 1990	
- Response to NRC Comments on EIS Site Characterization Plan and Performance Assessment	January 1991	
- Conceptual Site Closure Alternatives Review	January 1991	
- Discussion of D&D Criteria	March 1991	May 1991
- Sludge Wash SER		
- Review of Site Closure Alternatives	June 1991	
- NRC Acceptance of Topical Report and Process Control Plan for LLW Form		June 1991
- Proposed D&D Criteria		December 1991