

Mr. Thomas Rowland, Director November 23, 1994
U.S. Department of Energy, Idaho Operations
West Valley Demonstration Project
P.O. Box 191
West Valley, New York 14171

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION MONITORING VISIT ON AUGUST 1-5, 1994

Dear Mr. Rowland:

On August 1-5, 1994, a monitoring visit was made to the Department of Energy (DOE), West Valley Demonstration Project, site to review the activities of the DOE contractor, West Valley Nuclear Services Company, Inc. (a Westinghouse subsidiary). In addition, the team members attended parts of the contractor's Readiness Assessment Board meetings to evaluate the THOREX and waste sludge transfer and reviewed a limited number of contractor-conducted audits of both internal activities and subcontractor work. Details of these reviews are provided in Enclosure 1. Individuals present at the Exit Interview are indicated in Enclosure 2.

As a result of this review, the Monitors determined that, in general, the contractor has established viable programs in the areas reviewed. These programs appear adequate to protect the public health and safety. However, as indicated in Enclosure 1, the Monitors identified two areas requiring improvement: (1) timeliness of responses to findings and observations in internal audits, and (2) examining the need to conduct more performance based audits, especially of subcontractors providing goods and services to the contractor.

The monitoring team consisted of Joseph Furia, Project Engineer - West Valley, and Richard Plasse, Resident Inspector.

If you have any questions about this report, please contact me at (301) 415-8106.

Sincerely,

Original signed by

Gary C. Comfort, Jr.
Licensing Section 2
Licensing Branch
Division of Fuel Cycle Safety
and Safeguards, NMSS

Project M-32

Enclosures: As stated

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Project M-32	PUBLIC	NRC File Center	Region I
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Review of the Project Status

The Monitors reviewed documentation, held discussions with cognizant DOE and contractor personnel, and observed activities in progress as discussed below.

1.0 PROJECT STATUS OVERVIEW

The contractor presented updated status briefings on the following:

Preparation for vitrification facility operations, including procedure development, training of operations personnel, vitrification test program, and the vitrification test facility.

Beta contamination in groundwater in the North Plateau area.

The information provided indicates that the contractor appears to have an appropriate safety perspective and that the public health and safety are being adequately protected.

In addition to the contractor presentations, the Monitors also attended two meetings of the contractor's Readiness Assessment Board for THOREX and waste sludge transfer. During these meetings, presentations were made by the contractor's line managers on: (1) deficiency identification, tracking, and resolution; (2) management programs; (3) conduct of operations; and (4) safety culture awareness. These presentations represented core requirement areas 6, 8, 12, and 14, respectively, of DOE Order 5480.31. The presentations were conducted in a professional manner.

2.0 PREVIOUSLY IDENTIFIED AREAS FOR IMPROVEMENT

During a previous monitoring visit on March 7-11, 1994, two areas for improvement were identified. Listed below are these areas and the actions taken by the contractor.

- (1) Indicate on the Radiographic Testing sheets the code standards against which the radiographs were read. The contractor has modified Inspection Standard 021 to include the code standard and tolerances against which the radiographs are compared. This change was implemented on March 14, 1994.
- (2) Determine the safety impact a chemical spill in the Cold Chemistry Building would have on the habitability of the Vitrification Facility Control Room. The subcontractor for environmental analysis, Dames & Moore, conducted an analysis of potential chemical spills and documented the results of this analysis in a letter dated July 7, 1994. This analysis was submitted to the West Valley Project Office (WVPO) for review and concurrence. The analysis will be fully reviewed once the WVPO has concurred with the report's findings.

The Monitors determined that the action for concern number 1 is appropriate, and this item is now closed. The action for concern number 2, above, will be reviewed following the concurrence of the analysis report by the WVPO.

3.0 OPERATIONS

As part of this monitoring visit, the following procedures for zeolite and waste sludge transfer were reviewed by the Monitors:

- SOP 00-02, Revision 9 - Preparing, Issuing, Field Changing and Revising Developmental Procedures, Standard Operating Procedures, and Special Instruction Procedures
- DTP 55-10, Revision A - Zeolite Transfer
- DTP 55-09, Revision A - THOREX Transfer and Neutralization
- WV-914, Revision 3 - Unreviewed Safety Question Determination (USQD)
- WV-100, Revision 7 - Preparation, Review, and Approval of Controlled Documents
- Readiness Assessment Plan for the High Level Waste Transfer System for Pretreatment
- WVNS-TPL-63-001 - Vitrification Facility Test Program Plan

The Monitors reviewed the development plan for vitrification related procedures which included:

- Guidelines utilized for procedure development and validation.
- Schedule for procedure issuance to support the vitrification program.
- Test procedure sequence to support the startup plan for the vitrification process.
- Approvals required to support the procedure review process.

The Monitors concluded that the contractor had a well-developed procedure implementation plan. At the time of the visit, the contractor had in place several key aspects, including: a detailed test plan; methods to identify and resolve procedure problems; a training, qualification, and validation plan; and a multi-disciplined procedure approval process by the Joint Test Group (JTG). To support the vitrification facility operation, the contractor plans to issue 106 vitrification procedures, 6 mini-melter procedures, and 5 waste transfer procedures for a total of 117 procedures. The contractor is in the early stages of the procedure development program, with only 2 waste transfer procedures issued out of the 117 procedures.

The Monitors reviewed the two procedures and concluded the procedures were comprehensive and met the general guidance provided by the site for procedure development.

Procedure DTP 55-09, THOREX Transfer and Neutralization, provides instructions for transferring THOREX waste contained in tank 8D-4 to tank 8D-2 where it will be mixed with caustic in tank 8D-2 and neutralized. The procedure includes instructions for filling the THOREX transfer lines, transferring THOREX waste from tank 8D-4 to 8D-2 and neutralizing it in tank 8D-2, and performing flushes between tanks 8D-4 and 8D-2.

Procedure DTP 55-10, Zeolite Transfer, provides instructions for transferring the spent zeolite from tank 8D-1 to 8D-2. The mixture of sludge and spent zeolite that remains in tank 8D-2 will form the feedstock for the vitrification process.

Both procedures were of high quality and included:

- references to supporting documents
- precautions, limitations, and prerequisite actions
- detailed instructions for expected evolutions
- expected alarms and alarm response actions
- valve lineup checksheets

In conclusion, it appears an adequate procedure development plan has been established, and the two issued procedures were comprehensive. However, it is too early in the procedure implementation to provide an overall assessment of the program.

4.0 BETA CONTAMINATION IN NORTH PLATEAU GROUNDWATER

During a previous site visit in November 1993, the WVPO and contractor discussed with one of the Monitors the discovery of beta contamination in groundwater in the North Plateau area of the project site. Since 1990, the contractor and the WVPO have been tracking an underground "plume" of beta contamination which has been traveling generally northward. Due to the slope of the land in the North Plateau area, some of this subsurface plume becomes groundwater near the northern site boundary. Actions taken by the contractor to date includes tracking the plume, quantifying the contamination, qualifying the isotopes involved, and developing action plans to address the situation, both long- and short-term. By mid-1995, the contractor expects to have in place a below ground filter system to intercept the plume before it rises to the surface and to selectively remove the beta contamination, which is primarily strontium/yttrium-90. Long-term corrective actions will be dependent upon further work to identify the original source of the contamination.

5.0 QUALITY ASSURANCE

The contractor has established a quality assurance program in accordance with DOE and contractor procedures, which includes audits of both internal and external activities. As part of this monitoring visit, the following audits were reviewed by the Monitors:

- Internal Audit (IA) 93-01 - IRTS/Site Engineering Audit
- IA 94-01 - Vit Process Review Audit
- IA 94-02 - Conduct of Operations Audit
- IA 94-03 - Radiological Controls
- External Audit (EA) 93-06 - Westinghouse Hanford Company Jumper Fabrication
- EA 94-03 - Bell Power Corporation

In general, the audit checklists developed good detail for inspection criteria. However, responses to internal audit findings were found to be untimely in three of the four audits examined, including more than 17 months late in the case of the findings from IA 93-01.

During this visit, the Monitors reviewed an unsatisfactory field fit-up for a jumper in the vitrification cell. Through discussions with the construction personnel completing the fit-up, the Monitors became aware that this problem was common and that jumpers received from Hanford required modifications at West Valley. A previous QA audit performed in Hanford (EA 93-06) on the vitrification jumper fabrication identified two instances where jumpers had been passed at Hanford as QA accepted and ready for shipment, when in fact, there were noticeable errors with the jumpers. The QA audit identified the two jumpers and their required repair to close out the audit findings but did not identify the issue of the Hanford QA acceptance of these flawed jumpers.

After further discussions with the DOE site representatives, the Monitors became aware that because the contractor has not effectively utilized their QA program to identify problems with jumper fabrication, installation, and inspection, DOE has initiated a request for immediate corrective action (R94-001) to the WVDP QA Manager.

Based on this limited review of QA audits, the Monitors identified two areas requiring improvement: (1) timeliness of responses to findings and observations in internal audits, and (2) examining the need to conduct more performance-based audits, especially of subcontractors providing goods and services to the contractor.

ENCLOSURE 2

Exit Interview Participants1. Department of Energy - West Valley Project Office

J. Desormeau, Industrial Safety & Laboratory Operations Manager
W. Hamel, Facility Representative
S. Ketola, Vitrification Projects Team Manager
E. Matthews, Environmental Program Manager
J. May, Vitrification Design Operations & System Engineering Manager
T. Rowland, Director
A. Yeazel, Operations, Maintenance and Construction Program Manager

2. West Valley Nuclear Services, Inc.

J. Hummel, Quality Assurance Manager
R. Humphrey, Construction and Project Administration Manager
R. Lawrence, Vitrification Project Manager
J. Little, Executive Vice President & Deputy General Manager
D. Shugars, Engineering Manager