UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

December 20, 2007

Bryan Bower, Director
Department of Energy
West Valley Demonstration Project
10282 Rock Springs Road
P.O. Box 191
West Valley, NY 14171-0191

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION WEST VALLEY DEMONSTRATION PROJECT MONITORING VISIT 2007-002

Dear Mr. Bower:

On August 7-9, 2007, Mark Roberts of this office conducted a routine monitoring visit at the Department of Energy's (DOE) West Valley Demonstration Project (WVDP) to review the activities of West Valley Nuclear Services Company, Inc., the DOE contractor at the site. The purpose of the monitoring visit was to review WVDP organizational changes; event reporting and corrective actions; general employee training; radiation protection program; and radioactive waste processing and disposal activities. The results of this visit were discussed with you and other members of your staff on August 9, 2007. Details of this review are provided in the enclosed report.

Please contact me at (610) 337-5282 if you have any questions about this report.

Thank you for your cooperation.

Sincerely,

/RA/

Raymond K. Lorson, Chief
Decommissioning Branch
Division of Nuclear Materials Safety

Enclosure:
Monitoring Report No. 2007-002

cc:
Paul Bembia, Acting Program Director, NYSERDA
State of New York
Christopher Eckert, Lead Physical Scientist, DOE, WVDP

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U.S. NUCLEAR REGULATORY COMMISSION
REGION I

MONITORING REPORT

Monitoring Visit Number:	POOM-032/2007002
Project Number:	POOM-032
Location:	West Valley Demonstration Project 10282 West Spring Road West Valley, NY 14171-9799
Visit Dates:	August 7-9, 2007
Monitor:	Mark Roberts Senior Health Physicist Decommissioning Branch
Approved by:	Raymond K. Lorson, Chief Decommissioning Branch Division of Nuclear Materials Safety

Enclosure

EXECUTIVE SUMMARY

U. S. Department of Energy (DOE)
West Valley Demonstration Project (WVDP)

NRC Monitoring Report No. 07-002

In accordance with the WVDP Act of 1980 and as implemented by a Memorandum of Understanding between the DOE and the NRC, NRC Region I staff conduct technical monitoring visits at the WVDP site to review WVDP facilities and operations. NRC technical monitors use NRC Inspection Manual Chapter 0111, "Region I Monitoring Activities for the DOE West Valley Demonstration Project" as guidance for the monitoring visits and prepare a report documenting each visit. This report summarizes the monitoring visit conducted over the period of August 7-9, 2007, at the WVDP. The purpose of the visit was to review WVDP organizational changes; event reporting and corrective actions; general employee training; radiation protection program; and, radioactive waste processing and disposal activities.

The NRC monitor interviewed cognizant personnel, performed field observations, and examined documentation during the visit. Based on this review, the monitor noted the following:

- The contractor transition from West Valley Nuclear Services Company (WVNSCO) to West Valley Environmental Services LLC (WVES) was in progress. Because many of the current staff were remaining to fill similar roles with the new contractor, the contract transition did not appear to adversely affect the planned decommissioning activities. (Section II)

- Root cause evaluations for a personal injury and several forktruck events were thorough and appeared to identify the root and contributory causal factors. Corrective actions appeared comprehensive and timely. (Section III)

- General employee training (GET) addressed appropriate subjects to familiarize new employees with an overview of important safety information and expectations for individuals accessing the site. The monitor noted that because of recent changes in the decommissioning contractors and the success of decommissioning activities, some of the material in the GET program was not up to date. (Section IV)

- The monitor reviewed an independent assessment of the radiation protection program. The assessment appeared thorough for the areas examined. The assessment report identified two findings, areas for improvement, and noteworthy practices. The monitor found appropriate and timely corrective actions had been implemented to resolve the two findings identified in the assessment report. (Section V)

- Significant quantities of radioactive waste were properly prepared and safely shipped to approved disposal facilities during the first half of 2007. Utilization of rail shipments to support the disposal of drum cell waste containers has accelerated disposal of this waste stream. (Section VI)

REPORT DETAILS

I. Introduction

This report documents the monitoring visit to the West Valley Demonstration Project (WVDP) on August 7-9, 2007. The purpose of the monitoring visit was to review: planned WVDP organizational changes; event reporting and corrective actions; general employee training; radiation protection program; and, radioactive waste processing and disposal activities.

II. WVDP Organizational Changes

A. Inspection Scope

The NRC monitor reviewed the planned organizational changes for the Department of Energy's (DOE) contractor performing the cleanup of the facilities of the WVDP. Monitoring activities consisted of reviews of documents and interviews with cognizant personnel.

B. Observations

The DOE had contracted with West Valley Nuclear Services Company (WVNSCO) to perform cleanup activities at the WVDP site. The performance period for the contract with WVNSCO had been extended several times until a longer term funding contract was developed. On June 29, 2007, DOE awarded West Valley Environmental Services LLC (WVES) a four-year contract to continue cleanup activities at the WVDP site. WVES is comprised of Washington Group International, Inc., Jacob Engineering Group, Inc., Environmental Chemical Corporation, and Parallax, Inc. The contract transition began on July 1, 2007, and was scheduled to conclude August 30, 2007. The four-year contract with WVES covers decontamination in major plant buildings, processing and shipping low-level and transuranic waste, ensuring safe interim storage of the high level waste canisters, and the removal of lesser site structures. The WVNSCO Project Manager will be maintained as the WVES Project Manager and most of the current staff will serve in similar roles in the new organization.

C. Conclusions

The contractor transition from West Valley Nuclear Services Company (WVNSCO) to West Valley Environmental Services LLC (WVES) was in progress. Because many of the current staff were remaining to fill similar roles with the new contractor, the contract transition did not appear to adversely affect the planned decommissioning activities.

III. Event Reporting and Corrective Actions

A. Inspection Scope

The NRC monitor reviewed the root cause analyses and corrective actions associated with a ladder tip-over incident that led to the injury of a worker and a series of forktruck events. Cognizant site personnel presented overviews of the events including the status of corrective actions. The NRC monitor interviewed cognizant personnel and reviewed documentation.

B. Observations

The NRC monitor reviewed the status of corrective actions associated with an April, 2007, event that involved an injury to a worker who fell from a mobile ladder while conducting maintenance on a manipulator arm. The investigators determined that the direct cause of the event was the failure of a rubber foot on the ladder that allowed the ladder to slide and become unstable. The investigators further determined that the root cause of the event was that the task analysis for performing maintenance on the manipulator was not integrated into the work-planning process. That is, the current procedure did not address the controls necessary for performing work at an elevated location and the awkward position required to perform the tasks. Contributing causes were also identified. The corrective actions included immediately removing certain ladders from service, developing more rigorous pre-work inspection and preventive maintenance programs, and suspending work under standard operating procedures until reviewed for potential hazards and hazard controls.

The monitor also reviewed a root cause analysis involving multiple forktruck incidents that occurred between October, 2006, and May, 2007. The investigators reviewed incident reports and closure documentation, standard operating procedures, training requirements, and other documents relevant to forktruck operation. The investigators determined that the root causes of the events included less than adequate human performance coupled with inadequate work organization and planning. Corrective actions included: refresher training for operators, development of supervisory expectations, increased emphasis on use and training of spotters, and establishing criteria for identifying non-routine work.

The monitor reviewed and discussed the status of corrective actions with cognizant personnel. The monitor noted that the corrective actions were comprehensive and that most actions had been completed. The monitor discussed performing an “extent of condition” review of other activities and programs to determine if any of the corrective actions could have applicability in other areas. WVDP staff acknowledged the potential benefit of this review.

C. Conclusions

Root cause evaluations for a personal injury and several forktruck events were thorough and appeared to identify the root and contributory causal factors. Corrective actions appeared comprehensive and timely.

IV. General Employee Training

A. Inspection Scope

The monitor reviewed the general employee training program (GET) for new employees. Monitoring activities consisted of a review of the computer-based training program and associated documentation and discussions with cognizant personnel.

B. Observations

The monitor viewed the computer-based GET program to gain unescorted access to the site and reviewed the accompanying GET training manual. The monitor noted that the appropriate subjects were included in the training including: project overview, general safety, site security, radiation safety, emergency response, chemical safety, and environmental safety. Stop-work expectations and ladder safety discussions were emphasized, in part, to address recent corrective actions to site incidents. The monitor also noted that as a result of changes to the

site contractor and the success of ongoing decommissioning activities, some of the material in the program was not up to date.

C. Conclusions

GET addressed appropriate subjects to familiarize new employees with an overview of important safety information and expectations for individuals accessing the site. The monitor noted that because of recent changes in the decommissioning contractors and the success of decommissioning activities, some of the material in the GET program was not up to date.

V. Radiation Protection Program

A. Inspection Scope

The monitor reviewed selected aspects of the WVDP radiation program. Cognizant personnel presented an overview of the program. In particular, the monitor reviewed the independent assessment of the radiation protection program. Monitoring activities consisted of interviews with cognizant personnel, tours of areas, and reviews of documentation.

B. Observations

The monitor reviewed the triennial independent assessment of the radiation protection program required by 10 CFR 835.102. The assessment was performed by DOE staff from the Savannah River Site. The assessors reviewed five functional areas: personal dosimetry and dose assessment, portable and fixed instrumentation, contamination control, radiological monitoring, and accident and emergency dose controls. The assessors found the program to be well established and functional with strong management support. During their review, the assessors identified two findings; one in the area of radiological survey documentation and a second regarding comparison of thermoluminescent dosimeter (TLD) and electronic dosimeter (ED) results. The assessors also identified areas for improvement and noteworthy practices. The assessment appeared to thoroughly address the functional areas examined. The monitor discussed implementation of actions to address the findings with senior radiation protection representatives. Radiation protection staff performed timely training, evaluations, and procedure changes to address the findings.

The monitor also conducted tours of radiologically controlled areas, radioactive waste storage areas, and a radioactive waste shipping area. The monitor found radiological postings were appropriate and radiological survey instruments and contamination monitors were within current calibration.

C. Conclusions

The monitor reviewed an independent assessment of the radiation protection program. The assessment appeared thorough for the areas examined. The assessment report identified two findings, areas for improvement, and noteworthy practices. The monitor found appropriate and timely corrective actions had been implemented to resolve the two findings identified in the assessment report.

VI. Radioactive Waste Processing and Disposal Activities

A. Inspection Scope

The monitor reviewed radioactive waste preparation, shipping, and disposal activities. DOE and contractor staffs provided an overview of activities conducted at the Remote Handled Waste Facility (RHWF). The monitor reviewed radioactive material volumes recently shipped for disposal. Monitoring activities consisted of discussions with cognizant personnel, review of documentation, and field observations.

B. Observations

Contractor and DOE personnel provided an overview of operations at the RHWF. The RHWF was designed and constructed to handle waste streams with high dose rates and high levels of contamination that had been generated during past operations at the WVDP. Waste from past operations is transferred into the facility and then sampled and/or analyzed via the field gamma counting system. Waste is then de-watered and mechanically reduced in size, as necessary, segregated into appropriate waste streams, and loaded into 55-gallon drum liners or B-25 box liners. Work is conducted remotely with cranes and manipulator arms with various attachments for opening containers, cutting components and sampling. Operators view the waste handling activities through shielded windows and with remote cameras. Loaded waste containers are then transferred out of the facility and staged for shipping. Periodic access to the facility is required for maintenance on cranes, manipulator arms, and other equipment.

WVDP personnel have conducted a significant infrastructure removal and site cleanup campaign that generated large quantities of waste for offsite disposal. Most of this waste has been shipped to the Energy Solutions facility in Utah or to the Nevada Test Site (NTS). As of August, over 350,000 cubic feet of waste had been shipped in 2007. This volume exceeded the volume shipped during 2006. A large fraction of the waste currently being shipped from the site is from the ongoing campaign for removing solidified waste from the drum cell facility. Certain liquid wastes had been processed and solidified in 71-gallon drums from 1988 through 1995. This waste is packaged in approximately 20,000 drums and is currently stored at the WVDP in the drum cell facility, a building specifically designed to store and provide access to the special 71-gallon square-top drums. Once the remaining drums are shipped for disposal, the drum cell facility is expected to be demolished.

Removal of drum cell waste containers from their storage location for preparation for shipment is performed remotely. Operators at the drum cell storage facility control area demonstrated the use of the remote monitoring surveillance equipment to select, identify, and move waste drums to the preparation area. Operators had the capability to select several camera locations to observe specific areas and operations within the drum cell storage building. Operators demonstrated the process they followed to ensure the proper verification of drum cell containers selected for preparation and shipment. Drum cell wastes were initially loaded into trucks for transportation to and disposal at the NTS. Waste is now shipped via rail in gondola cars and has resulted in a significant increase in the volume shipped. The drum cell waste is now loaded in groups of six drums into specially designed and tested bags and then placed in gondola rail cars. The monitor observed drum cell preparation and handling operations at the gondola car loading facility. Methods used to ensure the proper placement and bracing of the waste containers within a gondola car were described. Over half of the 20,000 drums have been processed and shipped from the site.

C. Conclusions

Significant quantities of radioactive waste were properly prepared and safely shipped to approved disposal facilities during the first half of 2007. Utilization of rail shipments to support the disposal of drum cell waste containers has accelerated disposal of this waste stream.

VII. Management Meetings

Exit Meeting Summary

The monitor presented the monitoring visit results during an out-briefing meeting with representatives from DOE, WVNSCO, and NYSERDA upon conclusion of the onsite visit on August 9, 2007. DOE and DOE-contractor personnel acknowledged the observations presented by the monitor.

Partial List of Persons Contacted

Department of Energy

Bryan Bower, Deputy Director
David Cook, Facility Representative
Jennifer Dundas, Physical Scientist
Christopher Eckert, Lead Physical Scientist
Geoff Gorsuch, Industrial Hygienist
David Gray, General Engineer
William Hunt, General Engineer
*Herman Moore, Facility & Waste Disposition Projects, Team Leader
*Tom Vero, Lead General Engineer

NYSERDA

*Ted Sonntag, Program Manager
Michael Weinshan, Senior Project Manager

WVNSCO

Sonja Allen
*John Chamberlain
Lettie Chilson
Joe Ebert
Dwight Garland
*John Gerber, Manager - Environmental, Safety, Health & Quality
*Richard Hazard, Radiation Protection
*Ida Klahn, Public Relations Coordinator
*Al Konetzni, President/Project Director
David Klenk, Environmental Affairs
Kim Mansfield
Dan Meess
Howard Payne, Senior Engineer
Jim Paul
*Paul Valenti, Manager - Integrated Work Coordination

*Denotes attendance at the onsite out-briefing held on August 9, 2007.

List of Documents Reviewed

WVDP-239, Rev. 10, Groundwater Monitoring Plan

U. S. Department of Energy Order DOE O 450.1

WVNSCO 1st Quarter 2007 Groundwater Trend Analysis Report

Forktruck Multiple Event Root Cause Analysis Presentation, May 24, 2007

Root Cause Analysis of Mobile Ladder Stand Tip-Over Results in Shoulder Injury Presentation, May 22, 2007

General Employee Training Manual, West Valley Demonstration Project, TR236Q, Rev. 22.

WVNSCO (WVDP) Triennial Radiation Protection Program Assessment, April 30, 2007, ESH-RPS-2007-00088

List of Acronyms

DOE	Department of Energy
ED	Electronic Dosimeter
GET	General Employee Training
NYSERDA	New York State Energy Research and Development Authority
RHWF	Remote Handled Waste Facility
TLD	Thermoluminescent Dosimeter
WVDP	West Valley Demonstration Project
WVES	West Valley Environmental Services
WVNSCO	West Valley Nuclear Services Company