



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

February 14, 2006

John Swailes, Director
Department of Energy
West Valley Demonstration Project
10282 Rock Springs Road
West Valley, NY 14171-9799

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION MONITORING VISIT 2006-001

Dear Mr. Swailes:

This report summarizes the results of the monitoring visit of January 17-19, 2006, at the Department of Energy's (DOE) West Valley Demonstration Project (WVDP). The purpose of this monitoring visit was to review activities associated with the monitoring of the North Plateau groundwater plume, the processing and shipment of radioactive material, and the performance analysis and trending program. This routine monitoring visit was conducted by Robert Prince from the Region I NRC office. The results of this monitoring visit were discussed with you and members of your staff on January 19, 2006. Details of the review are provided in the enclosed report.

Based on this review, no issues related to the WVDP were identified. The NRC monitor determined that the contractor had established and maintained controls, processes, and programs adequate to protect public health and safety. Future monitoring visits will continue to evaluate groundwater monitoring activities and classification of various radioactive waste materials.

Please contact me at (610) 337-5205 if you have any questions about this report.

Thank you for your cooperation.

Sincerely,

/RA/

Marie Miller, Chief
Decommissioning Branch
Division of Nuclear Materials Safety

Enclosure:
Monitoring Report No. 2006-001

cc:
State of New York
Paul Piciulo, Ph.D., Program Director, NYSERDA
Herman Moore, Team Leader
T.J. Jackson, Deputy Director

J. Swailes

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**U.S. NUCLEAR REGULATORY COMMISSION
REGION I**

MONITORING REPORT

Monitoring Visit Number: POOM-032/2006001

Project Number: POOM-032

Location: West Valley Demonstration Project
10282 West Spring Road
West Valley, NY 14171-9799

Visit Dates: January 17-19, 2006

Monitor: Robert Prince
Health Physicist

Approved by: Marie Miller
Decommissioning Branch
Division of Nuclear Materials Safety

EXECUTIVE SUMMARY

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

NRC Monitoring Report No. 06-001

This report summarizes the monitoring visit conducted over the period of January 17-19, 2006, at the West Valley Demonstration Project (WVDP). The purpose of this monitoring visit was to review ongoing activities associated with the monitoring of the North Plateau groundwater plume, performance analysis and trending program activities, and processing and shipment of radioactive material.

DOE and contractor organizations have implemented and continue to manage an environmental monitoring and sampling program to evaluate radioactivity concentrations and any changes in the advancement and migration of the North Plateau groundwater plume.

Recent changes in evaluation methods associated with various performance analysis and trending indicators were comprehensive and effectively communicated to personnel and implemented. Cognizant personnel were knowledgeable of recent program changes and the importance of evaluating key performance indicators for adverse trending analysis.

Appropriate focus has been placed on the preparation and shipment of low level waste (LLW) for offsite disposal to reduce the volume of LLW currently stored at the WVDP. Aggressive LLW disposal goals for the current fiscal year to further reduce the amount of onsite LLW have been established.

REPORT DETAILS

I. Introduction

This report documents the monitoring visit to the West Valley Demonstration Project (WVDP) on January 17-19, 2006. The purpose of the monitoring visit was to evaluate ongoing activities associated with the monitoring of the North Plateau groundwater, performance analysis and trending program, and processing and shipment of radioactive material.

II. North Plateau Groundwater Monitoring Program

A. Inspection Scope

The NRC monitor reviewed recent groundwater monitoring data and details associated with ongoing activities relating to the evaluation of plume migration and changes in measured contamination concentrations. The review included interviews with cognizant personnel, field observations, and examination of documentation.

B. Observations

DOE and contractor personnel provided a summary of the North Plateau groundwater monitoring program. The groundwater plume is attributable to activities associated with operation of the former West Valley reprocessing facility, the source of which is believed to have occurred in 1968. The portion of the plume, with the highest radioactivity concentrations, is primarily limited to the DOE-controlled portion of the site. Portions of the leading edge of the plume, with lower radioactivity concentrations, have migrated beyond the DOE-controlled area within the confines of the Western New York Nuclear Services Center (WNYNSC). The groundwater plume does not pose an immediate risk to the health and safety of the public.

The North Plateau groundwater plume is monitored via a series of wells, seepage points, and recovery locations. Sampling and analysis details are described in the WVDP Site Environmental Monitoring Program. A recovery system, referred to as the North Plateau Groundwater Recovery System (NPGRS), was installed by DOE in 1995. The purpose of the NPGRS was to limit the advance of the plume's main western lobe and remove strontium-90 (Sr-90) from the processed groundwater. The monitor noted that the NPGRS has removed approximately 6.4 curies of Sr-90 as of October 2005. Based on groundwater monitoring data the system appeared to slow the advance of portions of the main western lobe. A review of plume concentration monitoring data obtained over the last few years is inconclusive concerning the rate of plume advancement or widening of the plume flanks. Some monitoring wells depict a decreasing trend in Sr-90 concentrations, while at other locations Sr-90 concentrations are increasing. DOE and contractor personnel plan to continue the monitoring program for the North Plateau, including data analysis to evaluate migration and movement characteristics of the groundwater plume.

The NRC monitor was provided a tour of the North Plateau area. DOE and contractor representatives identified and discussed selected sampling locations. The tour included key monitoring well locations, seepage sampling points, and an overview of local topography characteristics influencing direction of groundwater flow and infiltration locations. Ongoing

Enclosure

monitoring activities associated with the North Plateau groundwater plume will continue to be evaluated during future NRC monitoring visits.

C. Conclusions

DOE and contractor organizations have implemented and continue to manage an environmental monitoring and sampling program to evaluate radioactivity concentrations and any changes in the advancement and migration of the North Plateau groundwater plume.

III. **Performance Analysis and Trending**

A. Inspection Scope

The inspector reviewed recent changes relating to the monitoring and reporting of various performance indicators utilized by DOE and contractor organizations to monitor performance of work activities. The review included reviews of performance monitoring reports and interviews with cognizant personnel.

B. Observations

Since the last monitoring period the contractor has implemented various measures to improve the effectiveness of performance monitoring and the trending, tracking, and communication of performance indicators. Comprehensive measures that have been recently implemented or expanded include such items as increasing the presence of supervisory personnel in the field, routine meetings held between DOE Facility Representatives and contractor managers, multi discipline review of Occurrence Reports and related problem identification mechanisms, and communicating to employees the importance of utilizing various corrective action programs. The inspector noted that these program enhancements were noteworthy and will support continued improvement in the performance of WVDP work activities.

Cognizant personnel presented a summary of the WVNSCO Third Quarter Performance Analysis and Trending Report. Various performance indicators are included in these reports. The report content has been recently expanded to include additional inputs for trending and tracking key performance indicators with emphasis on identifying lower-threshold negative trends in performance. Trending data is obtained from Occurrence Reports, Critique Minutes, Issue Reports in addition to various audits and assessments. The inspector noted that the various performance indicators were adequately accessed for adverse trends. Appropriate recommendations were provided in the report along with the identification of associated actions and responsibilities. Cognizant personnel were actively involved in recent program changes and knowledgeable of requirements associated with communicating adverse trend information in a timely manner.

Cognizant personnel provided an overview of a recently completed assessment. Management requested Quality Assurance (QA) perform a procedural compliance assessment based on recurring procedural compliance issues identified by various performance monitoring program

data. Immediate and longer term corrective actions were identified as a result of this assessment. Corrective actions were comprehensive and effectively implemented in a timely manner. No issues were identified.

Conclusions

Recent changes in evaluation methods associated with various performance analysis and trending indicators were comprehensive and effectively communicated to personnel and implemented. Cognizant personnel were knowledgeable of recent program changes and the importance of evaluating key performance indicators for adverse trending analysis.

IV. Radioactive Waste Handling, Packaging, and Transportation

A. Inspection Scope

Contractor and DOE personnel provided a summary of radioactive material packaging and transportation activities for 2005. Radioactive material shipments planned for 2006 and the status of various waste stream classifications were also discussed with cognizant personnel.

B. Observations

A major focus during 2005 was to characterize and manifest waste for shipment and offsite disposal. The monitor had reviewed selected completed manifests and waste stream classification packages during previous visits. The monitor noted that for fiscal year 2005 that the WVDP processed approximately 330,000 cubic feet of low-level waste (LLW). Additionally, approximately 307,000 cubic feet of LLW was shipped offsite for disposal. The disposal of this waste volume was a significant accomplishment. Cognizant personnel stated that preliminary volumes of LLW slated for disposal in 2006 were on the order of 500,000 to 600,000 cubic feet.

The monitor discussed the status of various waste incidental to reprocessing (WIR) evaluations with cognizant personnel. These WIR evaluations are required by DOE to be completed to support the disposal of such items as the melter, and other miscellaneous items requiring disposal. WIR evaluations were in various stages of DOE's review process. The status of these WIR evaluations will be reviewed during future monitoring visits.

C. Conclusions

Appropriate focus has been placed on the preparation and shipment of LLW for offsite disposal to reduce the volume of LLW currently stored at the WVDP. Aggressive LLW disposal goals for the current fiscal year to further reduce the amount of onsite LLW have been established.

V. Management Meetings

Exit Meeting Summary

The inspector presented the monitoring visit results during an out-briefing meeting with the Director, WVDP and members of his staff, New York State Energy Research and Development Authority (NYSERDA) representatives and others on January 19, 2006. DOE and DOE contractor personnel acknowledged the observations presented by the inspector.

Partial List of Persons Contacted

Department of Energy

Cathy Bohan

*Bryan Bower

*Dave Cook, Facility Representative (via telecon)

*Jennifer Dundas

*Chris Eckert, Health Physicist

*Dave Gray, General Engineer

*Bill Hunt, Facility Representative (via telecon)

*T.J. Jackson, Deputy Director

*Herman Moore, Facility & Waste Disposition Projects, Team Leader

*John Swailes, WVDP Director

NYSERDA

Colleen Gerwitz, Program Manager

*Paul Piciulo, Director

*Ted Sonntag, Program Manager

Paul Bembia, Program Manager

WVNSCO

Robert Carter, Manager - Quality Assurance

*Lettie Chilson, Nuclear Safety & Emergency Management Manager

*Karl Dickerson, Infrastructure

*Jack Gerber, Manager - Environmental, Safety, Health & Quality

Jim Gramling, Fellow Engineer

*Stuart MacVean, WVNSCO Vice President

*Russ Mellor, WVNSCO President

Linda Michalczak, Engineer

*Lawrence Myszka, Nuclear Safety & Emergency Management

Howard Payne, Senior Engineer

Laurene Rowell, Waste Disposition Project Manager

*William Wierzbicki, Environmental Programs

List of Acronyms

DOE	Department of Energy
LLW	Low Level Waste
NPGRS	North Plateau Groundwater Recovery System
NYSERDA	New York State Energy Research Development Authority
QA	Quality Assurance
Sr-90	Strontium 90
WIR	Waste Incidental to Reprocessing
WVDP	West Valley Demonstration Project
WVNSCO	West Valley Nuclear Services Company