



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION I  
475 ALLENDALE ROAD, SUITE 102  
KING OF PRUSSIA, PA 19406-1415

May 8, 2024

Bryan C. Bower  
Director  
West Valley Demonstration Project  
U. S. Department of Energy  
10282 Rock Springs Road  
West Valley, NY 14171

**SUBJECT: WEST VALLEY DEMONSTRATION PROJECT - U.S. NUCLEAR  
REGULATORY COMMISSION MONITORING VISIT REPORT NO.  
05000201/2024001**

Dear Bryan Bower:

On March 26 – 27, 2024, the Nuclear Regulatory Commission (NRC) conducted an announced monitoring visit at the U.S. Department of Energy's West Valley Demonstration Project site to review ongoing decommissioning activities. The monitoring visit consisted of observations by the NRC representatives, a review of documents, interviews with site personnel and site walkdowns supplemented by in-office reviews and periodic phone calls. The results of the monitoring visit were discussed with Jennifer Dundas and Jamie Prowse on April 29, 2024, and are provided in the enclosed report.

Based on the results of this monitoring period, no public health and safety issues of more than minor significance were identified.

No reply to this letter is required. Please contact Katie Barnes of my staff at (610) 337-5323 if you have any questions regarding this matter.

Sincerely,

Anthony Dimitriadis, Chief  
Decommissioning, ISFSI, and Reactor Health  
Physics Branch  
Division of Radiological Safety and Security

Docket No. 05000201  
License No. CSF-1

Enclosure:  
Report No. 05000201/2024001

B. Bower

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cc w/encl: Distribution via ListServ

Jennifer Dundas, Associate Director, Office of Technical Services  
Stephen Busquet, Associate Director  
Paul Bembia, NYSERDA Program Director

SUBJECT: WEST VALLEY DEMONSTRATION PROJECT - U. S. NUCLEAR  
REGULATORY COMMISSION MONITORING VISIT REPORT NO.  
05000201/2024001 DATED MAY 8, 2024

Distribution w/encl (via email)

- P. Krohn, RI, DRSS
- J. Zimmerman, RI, DRSS
- A. Dimitriadis, RI, DRSS
- K. Barnes, RI, DRSS
- S. Veunephachan, RI, DRSS
- M. Heath, DUWP, NMSS

DOCUMENT NAME: <https://usnrc.sharepoint.com/teams/Region-I-Decommissioning-Branch/Inspection Reports/Inspection Reports - Final/WVDP Report 2024001.docx>

**SUNSI Review Complete:** KBarnes **ADAMS ACCESSION NO. ML24122A733**

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DATE	5/6/2024		5/6/2024		5/8/2024	

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U.S. NUCLEAR REGULATORY COMMISSION  
REGION I

MONITORING REPORT

Monitoring Visit No. POOM-032/2024001

Project No. POOM-032

NRC Docket No. 05000201

NRC License No. CSF-1

Location: West Valley Demonstration Project

Monitoring Visit Dates: March 26 – 27, 2024

Monitoring Visit Exit Date: April 29, 2024

NRC Staff:

Katherine Barnes, Health Physicist  
Decommissioning, ISFSI, and Reactor  
Health Physics Branch  
Division of Radiological Safety and Security

Storm Veunephachan, Health Physicist  
Decommissioning, ISFSI, and Reactor  
Health Physics Branch  
Division of Radiological Safety and Security

Approved By: Anthony Dimitriadis, Chief  
Decommissioning, ISFSI, and Reactor  
Health Physics Branch  
Division of Radiological Safety and Security

Enclosure

## **EXECUTIVE SUMMARY**

U.S. Department of Energy (DOE)  
West Valley Demonstration Project (WVDP)  
NRC Monitoring Visit Report No. 2024001

An announced monitoring visit was conducted on March 26 – 27, 2024 by U.S. Nuclear Regulatory Commission (NRC) staff at the DOE WVDP site in West Valley, New York, supplemented by in-office reviews and periodic phone calls. The monitoring visit included reviews of programs and activities associated with the West Valley site decommissioning project. The monitoring visit consisted of interviews with DOE, DOE contractors, and New York State Energy Research and Development Agency (NYSERDA) personnel; a review of documents; walkdowns of the facility; and observations of in-progress work activities. The program for conducting NRC monitoring visits at the WVDP is described in Inspection Manual Chapter (IMC) 0111, “Region I Monitoring Activities for the Department of Energy West Valley Demonstration Project.”

Based on the results of this monitoring period, no public health and safety issues of more than minor significance were identified.

## REPORT DETAILS

### **1.0 Introduction**

In accordance with the WVDP Act of 1980 and as implemented by a Memorandum of Understanding between the DOE and the NRC, an announced routine monitoring visit was conducted on March 26 – 27, 2024 by NRC staff at the DOE WVDP site in West Valley, New York, supplemented by in-office reviews and periodic phone calls. The program for conducting NRC monitoring visits at the WVDP is described in IMC 0111. The monitoring visit included reviews of programs and activities associated with the WVDP site decommissioning project.

### **2.0 Main Plant Process Building (MPPB) Demolition**

#### **a. Inspection Scope**

The Main Plant Process Building (MPPB) was the main facility used for commercial nuclear fuel reprocessing; the MPPB was built between 1963 and 1966 and used by Nuclear Fuel Services from 1966 to 1972. The building consists of a series of cells, aisles, and rooms that are mostly above grade with a couple extending below ground surface. Portions of the MPPB were modified over the past four decades by the WVDP to support mission activities such as solidifying high-level waste.

In September 2022, CH2M HILL BWXT West Valley, LLC (CHBWV) began the phase of its contracted work to demolish the MPPB to grade level (100 +/- 3 ft) safely. All below-grade structures were previously grouted with controlled low-strength material in preparation for demolition activities. At the time of the monitoring visit, demolition had progressed without significant issues; recent demolition activity included the liquid waste cells and hot cells. As of April 2024, the building has been reduced to two stories in most areas.

The NRC staff reviewed DOE's MPPB Demolition Work Instruction Package (WIP) and MPPB demolition activities, including the most recent revision to the WIP. The monitoring visit consisted of interviews with DOE staff and contractor personnel, including discussions with cognizant personnel on the demolition activities. NRC staff performed walkdowns of the site, including outside areas of the MPPB, the remote handled waste facility, the radiological control room, and the lag storage facility. The NRC staff observed ongoing demolition activities on the MPPB, a pre-shift briefing, plan of the day meetings, and a technical review meeting. The NRC monitors discussed 2023 air monitoring results and recent Occurrence Reports with DOE personnel.

The NRC staff reviewed WVDP's corrective actions associated with a Technical Safety Requirement (TSR) noncompliance related to fossil fuel limitations in the lag storage area (LSA). This issue was documented in NRC monitoring report 2023002 (ADAMS Accession No. ML24052A085). The review included a tour of the LSA, discussions with DOE and contractor staff, and a review of documents associated with the corrective actions identified in WVDP's root cause analysis.

b. Observations and Findings

Airborne activity monitoring on site is provided by Environmental Continuous Air Monitors (ECAMs) and fixed air samplers (FAS) around the perimeter of the demolition area. The ECAMs transmit near-real-time data to the control room, where activity levels are monitored against three escalating action levels. NRC staff found all 14 ECAMs operational and communicating with the control room at the time of the monitoring visits. Offsite airborne activity monitoring is provided by 16 low-volume ambient air samplers surrounding the site, one in each of the 16 compass point sectors, used to demonstrate compliance with the EPA National Emission Standards for Hazardous Air Pollutants (NESHAP) dose limit of 10 mrem per year. The offsite air monitoring network continues to record low levels of radioactivity attributed to the MPPB demolition, though the doses continue to comprise a small fraction of the regulatory limits. In addition, the reported dose estimates for the theoretical maximally exposed onsite worker for 2023 calculated from the activity measured by the onsite air samplers was well within regulatory limits and the reported annual average derived air concentration (DAC) at the radiological boundary area was a small fraction of the site limit. The 2023 annual offsite air emissions will be reviewed in further detail when the Annual Site Environmental Report is available.

At the time of the monitoring visit, work in progress included waste packaging of low-risk material on the east side of the MPPB and construction of a ramp for the removal of the 1C sampler, a high material-at-risk (MAR) item. Work activities were intermittent as wind conditions required work to be stopped in accordance with the WIP. The 1C sampler was removed and packaged without incident the week following the monitoring visit.

The NRC staff verified that fossil fuel powered equipment approved for use in the LSA had been evaluated and confirmed to meet the TSR for fuel capacity, and that pre-approved equipment was labeled accordingly. The NRC staff verified that the entry of such equipment into the LSA is appropriately controlled in accordance with WVDP's corrective actions. The NRC staff found the LSA to be well organized and maintained, with waste containers observed to be in good material condition. The NRC staff found that revisions to procedures, training, and the Independent Verification Review process were reasonable to prevent recurrence of a TSR noncompliance.

c. Conclusions

No public health and safety issues of more than minor significance were identified.

**4.0 Exit Meeting Summary**

The NRC Region I representatives discussed the monitoring visit results with Jennifer Dundas, Associate Director, and Jamie Prowse, DOE contractor, on April 29, 2024.

## **SUPPLEMENTARY INFORMATION**

### **KEY POINTS OF CONTACT**

#### Department of Energy Staff and Contractors

B. Bower, Director WDVP  
J. Dundas, Assistant Director WDVP  
J. Prowse, CHP, DOE Contractor  
C. Lauber, DOE Facility Representative  
T. Ellis, Work Group Supervisor, CHBWW  
K. Slomba, Waste Operations and Compliance, CHBWW  
S. McCabe, DOE Facility Representative

#### NYSERDA

P. Bembia, Program Director  
B. Frank, Program Manager  
A. Mellon, Program Manager

### **PARTIAL LIST OF DOCUMENTS REVIEWED**

Monthly WVDP Project Performance Reports (various)  
NASCO DF4W12 Fuel Tank Capacity Calculation  
Occurrence Report Action Documentation Form; OITS #2320808 closure (CA 1- LSA access)  
Occurrence Report Action Documentation Form; OITS #2320815 closure (CA 7- training)  
ORPS report EM-OH-WVDP-CHBW-DD-2023-0003  
ORPS report EM-OH-WVDP-CHBW-DD-2024-0001  
Ottawa T2 Yard Tractor Fuel Tank Capacity Calculation  
Q4 2023 air monitoring results  
Radiological Survey No. 13K2W2023 for LSA, dated 3/25/2024  
Royal PL520 Fuel Tank Capacity Calculation  
SOP 09-21, Revision 59, Lag Storage Operations  
SOP 09-21 Appendix X, LSA 3&4 Activities / Equipment Approval  
Taylor Forklift Fuel Tank Drawing  
TR2001C Technical Safety Requirements training presentation  
Weekly WVDP Project Status Reports (various)  
W1904751, Work Instruction Package Main Plant Process Building Demolition, Field Change 10  
WV-365, Preparation of WVDP Safety Documents, Revision 39  
WVDP Project Change Implementation Verification Review Strategy 2024-IVR-01  
WVDP Quarterly Update Q3 2023 Ambient Air Concentrations



## **LIST OF ACRONYMS USED**

ADAMS	Agencywide Documents Access and Management System
CHBWV	CH2M HILL BWXT West Valley, LLC
DAC	Derived Air Concentration
DOE	Department of Energy
ECAM	Environmental Continuous Air Monitor
EPA	Environmental Protection Agency
FAS	Fixed Air Sampler
IMC	Inspection Manual Chapter
LSA	Lag Storage Area
MAR	Material-At-Risk
MPPB	Main Plant Processing Building
NESHAP	National Emission Standards for Hazardous Air Pollutants
NRC	Nuclear Regulatory Commission
NYSERDA	New York State Energy Research and Development Authority
TSR	Technical Safety Requirement
WIP	Work Instruction Package
WVDP	West Valley Demonstration Project