



# West Valley Demonstration Project Decommissioning Status

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Department of Energy

Citizen Task Force Meeting  
January 22, 2014

[www.wv.doe.gov](http://www.wv.doe.gov)

## Phased Decision Making

In 2010, DOE published the Final Environmental Impact Statement and Record of Decision (ROD) for Decommissioning and/or Long-Term Stewardship at the West Valley Demonstration Project (WVDP) and the Western New York Nuclear Service Center (WNYNSC)

▪ Phased Decisionmaking ROD  
▪ Phase 1 Decommissioning Plan

▪ Final Decommissioning ROD  
▪ Phase 2 Decommissioning Plan

**Phase 1 Decommissioning**  
(Complete by 2020\*)

**Phase 1 Facility Disposition**

- Relocate 275 HLW Canisters to new dry cask storage facility
- Demolish Vitrification Facility (Vit) and Main Plant Process Building (MPPB)
  - Remove ancillary facilities
  - Ship legacy Low Level Waste

**Phase 1 Soil Remediation**

- Remove Below Grade Portion of MPPB (including source area of plume), Vit, 01-14
- Remove Lagoons and Liquid Waste Treatment Facility
- Ship Legacy TRU Waste
- Remove Remote Handled Waste Facility and remaining ancillary facilities
- Remediate all WMA 1 & 2 Soil

\* Based on funding at \$75 M/yr

**Phase 2 Decommissioning**  
(Decisions made by 2020)

**Phase 2 Decisions**

- HLW Canister Shipment (permanent disposal decision)
  - Closure decision for Waste Tank Farm
- Closure decisions for NRC-licensed Disposal Area and State-licensed Disposal Area
- Construction and Demolition Debris Landfill
  - Contaminated media

## Phase 1 Facility Disposition

- **Scope of work includes:**
  - Complete high level waste (HLW) canister relocation at WVDP
  - Process, ship and dispose of all legacy waste off-site
  - Demolition and removal of the Main Plant Process Building (MPPB)
  - Demolition and removal of the Vitrification (Vit) Facility
  - Complete all work described in the Performance Work Statement
    - Remove ancillary facilities
    - Manage and maintain site infrastructure
    - Conduct environmental monitoring
    - Maintain the underground storage tanks, the NRC-licensed disposal area, and the Permeable Treatment Wall
- **Scope of work performed by CH2M HILL B&W West Valley, LLC (CHBWV) [contract awarded in 2011]**

## Phase 1 Soil Remediation

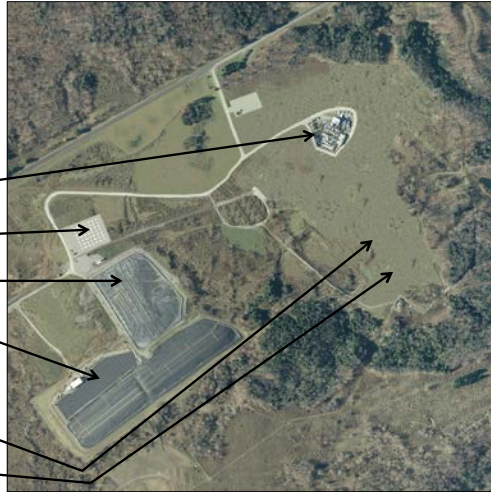
- **Plan scopes of work for Phase 1 soil remediation in ~2018\***
- **Award contract(s) in ~2019\***
- **Planned scopes of work will include:**
  - Remove below grade portions of MPPB and vitrification facility, including the source area of the plume
  - Remove the lagoons and liquid waste treatment facility
  - Ship the legacy transuranic (TRU) waste (potentially)
  - Remove the RHWF and remaining ancillary facilities (after shipment of TRU waste)
  - Remediate WMA 1 & 2 soil

\*Schedules for Phase 1 soil remediation are contingent upon the end date of the Phase 1 facility disposition scope of work.

## End of Phase 1 Decommissioning

At the end of Phase 1 decommissioning (Phase 1 facility disposition plus Phase 1 soil remediation) six facilities/ areas will remain:

- Tank farm with the tank and vault drying system
- HLW storage casks
- NDA with cap and barrier wall
- SDA with cap and barrier wall
- Non-source area of groundwater plume
- Construction and Demolition Debris Landfill



## Waste Management Areas

Orthoimage of the West Valley Demonstration Project



The *Final Environmental Impact Statement for Decommissioning and/or Long-Term Stewardship at the West Valley Demonstration Project and Western New York Nuclear Service Center* addresses the developed portion of the site in 10 waste management areas (WMA)

## WMA 1

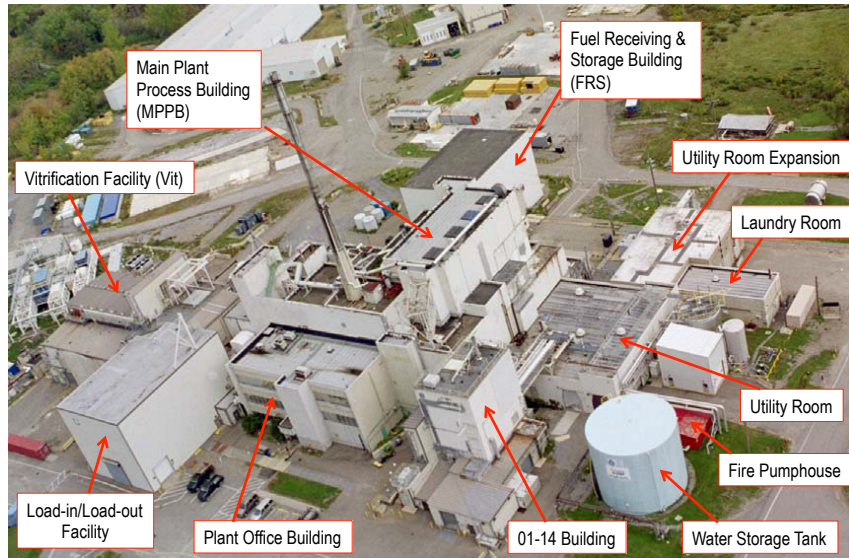
Orthoimage of WMA 1



### WMA 1 includes:

- Main Plant Process Building (MPPB)
- Plant office building
- Vitrification Facility
- Load-in/Load-out Facility
- Utility Room
- Fire Pump House
- Water storage tank
- Laundry
- Fuel Receiving and Storage

## WMA 1





## WMA 1 Status

Facility	January 2014 Status	Planned for End of Phase 1 Facility Disposition	Planned for End of Phase 1 Decommissioning
Main Plant Process Building	Removed: 86% of contaminated vessels 84% of piping and conduit 95% of asbestos	Demolished to slab at grade	Removal of slab, below-grade structures, & source area of plume
Vit Facility	99% decontaminated: contaminated equipment removed, floor cleaning & electrical isolations underway; cold chemical building demolished to the slab	Demolished to slab at grade	Removal of below-grade structures
Fuel Receiving & Storage	Vent building demolished; pool drained and cleaned; surface & airborne contamination remain	Remains in place	Removal of above- and below-grade structures
Plant Office Building	Rooms emptied, asbestos removal underway	Demolished to slab at grade	Removal of below-grade structures

## WMA 1 Status continued

Facility	January 2014 Status	Planned for End of Phase 1 Facility Disposition	Planned for End of Phase 1 Decommissioning
Utility Room	In service, contains significant quantity of asbestos	Demolished to slab	Removal of below-grade structures
Load-in/Load-out	In service, available for load-out of HLW canisters	Demolished to the slab	Removal of below-grade structures
Water Storage Tank & Fire Pump House	In service	Operational	Removal of above- and below-grade structures
Laundry Room	Demolition Ready	Demolished to the slab	Removal of below-grade structures
01-14 Building	Demolished to the slab	Demolished to the slab	Removal of below-grade structures

## WMA 2



1. Low-Level Waste Treatment Facility 2 (LLW2)
2. Lagoon 2
3. Lagoon 3
4. Lagoon 4
5. Lagoon 5
6. Old interceptor
7. New interceptors
8. Vitrification Test Facility
9. Vehicle Repair Shop
10. Test and Storage Building
11. Maintenance Shop
12. O2 building
13. Lagoon 1 area

## WMA 2 Status

Facility	January 2014 Status	Planned for End of Phase 1 Facility Disposition	Planned for End of Phase 1 Decommissioning
Low-Level Waste Treatment Facility 2 & Lagoons 2, 3, 4 & 5	Operational	Operational	Removal
Old & new interceptors	Operational	Operational	Removal
Vitrification Test Facility	Operational	Facility & foundation removed; area restored	NA
Vehicle Repair Shop, Test & Storage Building, Maintenance Shop	Demolished to slabs at grade	Facilities removed, foundations remain	Removal
O2 Building	Demolished to slab at grade	Foundation removed; area restored	NA
Lagoon 1	Inactive	Inactive	Removal

## WMA 3



1. Permanent Ventilation System building
2. Supernatant Treatment System support building
3. Equipment shelter and condensers
4. Con-Ed building
5. High-Level Waste (HLW) transfer trench
6. Two underground, 760,000 gallon carbon steel tanks: 8D-1 and 8D-2
7. Two underground, 14,300 gallon stainless steel tanks: 8D-3 and 8D-4

## WMA 3 Status

Facility	January 2014 Status	Planned for End of Phase 1 Facility Disposition	Planned for End of Phase 1 Decommissioning
Permanent Ventilation System	Operational	Operational	Operational
Supernatant Treatment System Support Building	Operational	Operational	Remains in place
Equipment Shelter (ES) & Condensers	Condensers isolated; ES partially operational	Facilities removed; foundation remains	Removal of foundation
Con-Ed Building	In-active	Facility removed; underlying tanks remain	NA
High-Level Waste Transfer Trench	In-place	All lines & trench isolated	Remove piping; trench remains
Tanks 8D-1 & 8D-2	Isolated	Isolated	Remain in place
Tanks 8D-3 & 8D-4	Isolated	Isolated	Remain in place

## WMA 3 Status of Tanks

- Tank & Vault Drying System (T&VDS) installed and operational in December 2010
  - Status of tank liquids
    - Tank 8D-1 – all liquid evaporated
    - Tank 8D-2 – all liquid evaporated
    - Tank 8D-3 – all liquid evaporated
    - Tank 8D-4 – 4,630 gallons of liquid/sludge remain
  - Status of vaults and containment pans
    - Tank 8D-1 vault liquid is below level indicator (<2 inches and may be dry)
    - Tank 8D-2 vault liquid is below level indicator (<2 inches and may be dry)
    - All liquid in containment pans of tanks 8D-1 and 8D-2 evaporated
    - Tank 8D-3/8D-4 vault liquid evaporated
- At the end of Phase 1 decommissioning the T&VDS will be operational; tanks and their support structures will remain in place

## WMA 4

Orthoimage of WMA 4  
Construction & Demolition Debris Landfill



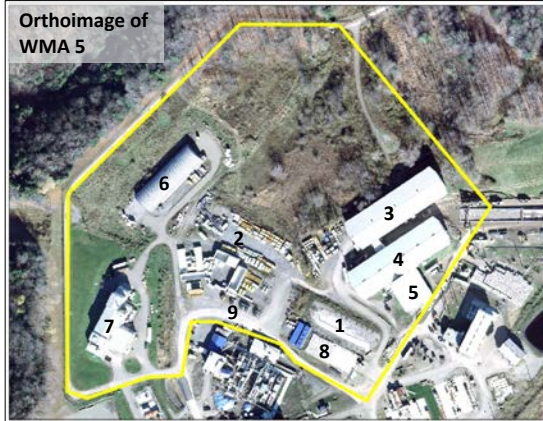
### The Construction and Demolition Debris Landfill (CDDL)

#### Status

- CDDL is inactive
- Monitoring and maintenance will continue through Phase 1 decommissioning



## WMA 5



1. Lag Storage Area 1
2. Lag Storage Area 2
3. Lag Storage Area 3
4. Lag Storage Area 4
5. Shipping depot
6. Chemical Process Cell Waste Storage Area
7. Remote-Handled Waste Facility (RHWF)
8. Lag Storage Building
9. Four Hazardous Waste Storage Lockers

## WMA 5 Status

Facility	January 2014 Status	Planned for End of Phase 1 Facility Disposition	Planned for End of Phase 1 Decommissioning
Lag Storage Area 1	Demolished to slab	Foundation remains	Remove foundation
Lag Storage Area 2	Operational	Waste removed; hardstand remains	Remove hardstand
Lag Storage Areas 3 & 4 and Shipping Depot	Operational	All waste removed; facilities remain	Remove facilities & foundations
Chemical Process Cell Waste Storage Area	Operational	Demolish facility & foundation	NA
Remote-Handled Waste Facility	Operational	Operational	Remove after remote-handled TRU waste has been shipped off-site
Lag Storage Building	Demolished to slab	Foundation remains	Remove foundation
Hazardous Waste Storage Lockers	Demolished	NA	NA

## WMA 6



1. Rail spur
2. Demineralizer sludge ponds (inactive)
3. Equalization basin
4. Equalization tank
5. Sewage Treatment Plant
6. Low-level waste rail packaging and staging area
7. Cooling tower
8. Two waste tank farm test towers
9. Old warehouse
10. Product Storage Area
11. HLW storage pad

## WMA 6 Status

Facility	January 2014 Status	Planned for End of Phase 1 Facility Disposition	Planned for End of Phase 1 Decommissioning
Rail Spur	Operable	Operational	Operational
Demineralizer Sludge Ponds	Inactive	No further action	Area restored
Equalization Basin	Operational	Remove facility & foundation	Area restored
Equalization Tank	Operational	Remove facility & foundation	Area restored
Sewage Treatment Plant	Operational	Remove facility & foundation	Area restored
Rail Packaging & Staging Area	Operational	Operational	Removed

## WMA 6 Status continued

Facility	January 2014 Status	Planned for End of Phase 1 Facility Disposition	Planned for End of Phase 1 Decommissioning
Cooling Tower	Demolished	Remove foundation	Area restored
Waste Tank Farm Test Towers	Demolished	Remove foundation	Area restored
Old Warehouse	Demolished	Area graded	Area restored
Product Storage Area	Demolished	Area graded	Area restored
HLW Storage Pad	Pad construction complete	HLW canisters stored in casks on the pad	HLW canisters stored in casks on the pad

## WMA 7

Orthoimage of WMA 7  
NRC-Licensed Disposal Area (NDA)



### NRC-Licensed Disposal Area Status

- A geomembrane cap and barrier wall were installed in 2008 to prevent water infiltration
- Liquid Pretreatment System is operable
- The NDA will remain in place during Phase 1 decommissioning

## WMA 8



### State-Licensed Disposal Area Status

- The geomembrane cap and barrier wall prevent water infiltration into the disposal area
- The leachate treatment facility was clean-closed and no longer stores mixed waste
- The SDA will remain in place during Phase 1 decommissioning

## WMA 9



1. Drum Cell
2. Subcontractor Maintenance Area
3. NDA Trench Container Area Pad



## WMA 9 Status

Facility	January 2014 Status	Planned for End of Phase 1 Facility Disposition	Planned for End of Phase 1 Decommissioning
Drum Cell	Operational; all waste has been removed	Facility & foundation removed; area restored	No further action
Subcontractor Maintenance Area	Operational	Operational	Removed
NDA Trench Container Area Pad	Operational	Operational	Removed

## WMA 10



1. Gatehouse
2. Administration Building
3. Warehouse
4. Meteorological Tower
5. Environmental Laboratory

## WMA 10 Status

Facility	January 2014 Status	Planned for End of Phase 1 Facility Disposition	Planned for End of Phase 1 Decommissioning
Gatehouse	Operational	Operational	Remains operational
Administration Building	Operational	Facility & foundation removed; area restored	No further action
Warehouse	Operational	Facility & foundation remain	Facility & foundation removed
Meteorological Tower	Operational	Operational	Remains operational
Environmental Laboratory	Demolished	Foundation removed; area restored	No further action

## End of Phase 1 Decommissioning

**At the end of Phase 1 decommissioning (Phase 1 facility disposition plus Phase 1 soil remediation) six facilities/ areas will remain:**

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- HLW storage casks
- NDA with cap and barrier wall
- SDA with cap and barrier wall
- Non-source area of groundwater plume
- Construction and Demolition Debris Landfill



- The Phase 2 decision includes WVDP and WYNSC facilities:
  - Waste Tank Farm
  - HLW Storage Casks
  - NRC-Licensed Disposal Area
  - State-Licensed Disposal Area
  - Construction and Demolition Debris Landfill
  - Contaminated media
    - Non-source area of the plume
    - Cesium prong
    - Streams