Revised Draft Environmental Impact Statement for Decommissioning and/or Long-Term Stewardship at the West Valley Demonstration Project and Western New York Nuclear Service Center

(Decommissioning and/or Long-Term Stewardship EIS)

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West Valley Citizen Task Force

Revised

December 17, 2008
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Agencies Agree on Path Forward

- Developing plan that addresses risks, costs, regulations and responsibilities has proven very difficult due to site complexity
- DOE, NYSERDA, NRC, EPA, New York State Departments of Environmental Conservation and Department of Health representatives (Core Team) began meetings in November 2006 to work on key issues blocking progress
- An approach acceptable to all parties has been reached and is the preferred alternative in the Draft Decommissioning EIS now available for public review and comment

Environmental Management

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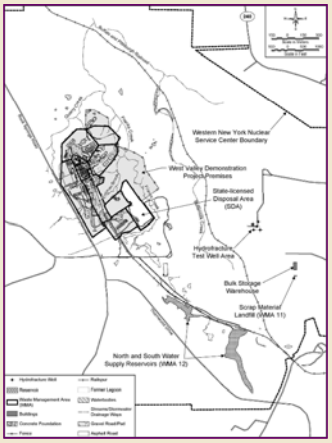
Waste Management Areas (WMAs)



DOE manages WMAs 1 through 10, with the exception of WMA 8. NYSERDA manages WMAs 8, 11, and 12.

Environmental Management

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Starting Point for this EIS

Environmental Management

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Starting Point for this EIS (cont)

- **West Valley Site Status as of the Starting Point for this EIS (approximately 2011)**
  - **Minor, generally uncontaminated facilities closed, emptied, decontaminated as necessary, and demolished to foundations**
  - **Main Plant Process Building decontaminated to demolition-ready status (except vitrified waste canister storage area and systems that support high-level radioactive waste canister storage)**
  - **Vitrification Facility and Remote-Handled Waste Facility decontaminated to demolition-ready status**
  - **Upgradient slurry/barrier wall installed, and a geomembrane cover placed over the NRC-licensed Disposal Area (NDA) to help mitigate surface water infiltration**

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Starting Point for this EIS (cont)

- **West Valley Site Status as of the Starting Point for this EIS (approximately 2011) (cont)**
  - **Tank and vault drying system installed at Waste Tank Farm to dry residual liquid in Tanks 8D-1 and 8D-2**
  - **Permeable treatment wall and a permeable reactive barrier installed to mitigate further North Plateau Groundwater Plume migration**
  - **North Plateau Groundwater Plume and background soils sampled for potential hazardous constituents that may exist in the plume**
  - **Legacy waste shipped offsite (possible exception of non-defense transuranic waste)**

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Proposed Action

The Proposed Action in this EIS is the completion of the West Valley Demonstration Project (WVDP) and the decommissioning and/or long-term management or stewardship of the Western New York Nuclear Service Center (WNYNSC)

- **DOE proposes to decontaminate and decommission tanks and other WNYNSC facilities in which high-level radioactive waste (HLW) solidified under the WVDP is stored, the facilities used to solidify the waste, and any material or hardware used in connection with the project, in accordance with the WVDP Act.**
- **NYSERDA must determine how the facilities and property for which it is responsible will be managed or decommissioned.**
- **Three alternatives for achieving the Proposed Action are considered in the Draft EIS.**

Environmental Management

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Sitewide Removal Alternative

- All facilities would be removed over 64-year period
- Vitrified HLW canisters are stored on site until they are shipped to a Federal waste repository
- Environmental media would be decontaminated
- Radioactive, hazardous and mixed waste would be characterized, packaged, and shipped offsite for disposal
- Major Construction
  - Interim Storage Facility
  - Waste Tank Farm Waste Processing Facility
  - Soil Drying Facility
  - Leachate Treatment Facility
  - Container Management Facility
  - Subsurface barrier wall in WMA 1, and
  - Environmental Enclosures for NDA, SDA, Lagoon 1, and North Plateau Groundwater Plume Source Area

Environmental Management

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Sitewide Close-In-Place Alternative

- All major facilities would be closed in place over 7-year period.
- Residual radioactivity in facilities with larger inventories of long-lived radionuclides would be isolated by specially-designed closure structures and engineered barriers.
- Buffer area and long-term stewardship would be required
- Major Construction
  - Interim Storage Facility
  - Leachate Treatment Facility
  - Barrier walls on North Plateau
  - Multi-layer covers and erosion-control structures
- Vitrified HLW canisters stored on site until shipped to Federal repository

Environmental Management

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Phased Decisionmaking Alternative

Preferred Alternative

- **Phase 1**
  - Main Plant Process Building, Vitrification Facility and 01-14 Building, source area of North Plateau Groundwater Plume and lagoons would be removed over 8-year period
  - No decommissioning or long-term management decisions for Waste Tank Farm and support facilities, Construction and Demolition and Debris Landfill, non-source area of the plume, or NDA
  - State-licensed Disposal Area (SDA) would be under active management for up to 30 years
  - Additional characterization and studies would provide information to support evaluations to determine technical approach to complete decommissioning
  - Major Construction
    - Interim Storage Facility
    - Barrier walls in WMAs 1 and 2
  - Vitrified HLW canisters stored on site until shipped to Federal repository
- **Phase 2**
  - Decommissioning or long-term management decision-making would be completed, following approach determined through Phase 1 evaluations

Environmental Management

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No Action Alternative

- No decommissioning actions would be taken
- Continued management and oversight of all facilities on the WNYNSC property as of the Starting Point for this EIS
- Does not meet DOE's and NYSERDA's purpose and need
  - Presented as a basis for comparing action alternatives as required under NEPA and SEQR implementing regulations

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Why Phased Decisionmaking?

- **Phase 1 would remove major facilities (such as Main Plant Process Building, lagoons), thereby reducing or eliminating potential human health impacts while introducing minimal potential for generation of new orphan waste**
- **Phase 1 would remove the source area for the North Plateau Groundwater Plume, thereby reducing the source of radionuclides that are a potentially significant contributor to human health impacts**
- **Stewardship during the interim period would minimize the potential for generation of waste, especially new orphan waste**
- **Would allow up to 30 years for collection and analysis of emerging technical data pertinent to the Sitewide Removal and Close-In-Place Alternatives**

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Potential Impacts: Sitewide Removal

- **Potential Impacts from Decommissioning Actions**
  - Entire site available for unrestricted release
  - Highest employment in worker-years because of long duration
  - Highest total radiological population dose to public (less than one latent cancer fatality)
  - Average worker dose below administrative control limits
  - Largest quantity of waste
  - Greatest volume of potential orphan waste
  - Greatest number of estimated nonradiological transportation fatalities due to large number of waste shipments
  - Highest discounted cost per avoided person-rem
- **Potential Impacts from Monitoring and Maintenance**
  - No monitoring or maintenance actions required
  - Negligible long-term radiological dose to offsite public
  - Very small long-term radiological doses to individuals who would reuse the site

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Potential Impacts: Sitewide Close-In-Place

- **Potential Impacts from Decommissioning Actions**
  - Portions of site available for release over period of time
  - Employment over short duration
  - Lowest total radiological population dose to public
  - Average worker dose below administrative control limits
  - Smallest volume of waste, including potential orphan waste
  - Less than 1 nonradiological traffic fatality
  - Lowest discounted cost per avoided person-rem
- **Potential Impacts from Monitoring and Maintenance**
  - Small number of workers, in perpetuity.
  - Small radiological dose to public and workers (less than No Action).
  - Small waste volumes (less than No Action).
  - Small long-term radiological doses to the public.
  - Moderate doses to intruder if institutional controls are lost

Potential Impacts: Phased Decommissioning

- **Potential Impacts from Phase 1 Decommissioning Actions**
  - Portion of site available for unrestricted release during Phase 1
  - Lower level of employment than Sitewide Removal and Sitewide Close-In-Place Alternatives
  - Total radiological population dose to public between other decommissioning alternatives, less than one latent cancer fatality
  - Average worker dose below administrative control limits
  - More waste than Sitewide Close-In-Place Alternative, less than Sitewide Removal Alternative
  - Less than one nonradiological traffic fatality

Potential Impacts: Phased Decommissioning (cont)

- **Potential Impacts of Phase 1 and Phase 2 Decommissioning Actions**
  - If Phase 2 decision is removal of remaining facilities:
    - Entire site available for release for unrestricted use
    - Total employment (worker-years) similar to Sitewide Removal Alternative
    - Total radiological dose to public similar to Sitewide Removal Alternative
    - Total waste volume similar to Sitewide Removal Alternative
    - Discounted cost per avoided person-rem similar to Sitewide Removal Alternative

Potential Impacts: Phased Decommissioning (cont)

- **Potential Impacts of Phase 1 and Phase 2 Decommissioning Actions (cont)**
  - If Phase 2 is close in place of remaining facilities and contamination:
    - Portion of site available for release for unrestricted use
    - Total employment (worker-years) similar to Phase 1 plus Sitewide Close-In-Place Alternative
    - Total population dose would be between Sitewide Removal and Close-In-Place Alternatives
    - Total waste volume similar to Phase 1 plus 30 percent of Sitewide Close-In-Place Alternative
    - Discounted cost per avoided person-rem similar to Sitewide Close-In-Place Alternative
- **Potential Impacts from Phase 1 Monitoring and Maintenance**
  - Small number of workers for up to 30 years
  - Small radiological dose to public and workers

Potential Impacts: Phased Decommissioning (cont)

- **Potential Impacts from Phase 1 and Phase 2 Monitoring and Maintenance**
  - If Phase 2 decision is removal of remaining facilities and contamination:
    - No workers required
    - Long-term human health impacts negligible, similar to Sitewide Removal Alternative
  - If Phase 2 decision is close in place of remaining facilities and contamination:
    - Small number of workers in perpetuity
    - Long-term human health impacts slightly less than Sitewide Close-In-Place Alternative because of removal of some facilities in Phase 1

Potential Impacts: No Action

- **No decommissioning actions or impacts**
- **Potential Impacts from Monitoring and Maintenance**
  - Non-impacted portions of the site available for unrestricted release
  - Workers required in perpetuity
  - Annual radiological dose to public and workers
  - Annual waste generation
  - Small to moderate long-term radiological doses to offsite public
  - Potentially lethal doses to on-plateau resident farmer if institutional controls are lost

Radiological Impacts – Decommissioning Actions

Total Dose and Risk to the Maximally Exposed Individual from Decommissioning Actions

Receptor	Sitewide Removal Alternative (Over 64 years)		Sitewide Close-In-Place Alternative (Over 7 years)		Phased Decisionmaking Alternative – Phase 1 (Over 8 years) [a]		No Action Alternative [b]	
	Dose (millirem)	Risk (LCF)	Dose (millirem)	Risk (LCF)	Dose (millirem)	Risk (LCF)	Dose (millirem)	Risk (LCF)
Receptor at nearest site boundary (airborne releases)	4.9	8.3×10^{-7}	0.28	7.7×10^{-8}	3.8	5.7×10^{-7}	0	0
Receptor on Cattaraugus Creek near site (liquid and airborne releases)	3.1	4.9×10^{-7}	0.32	9.3×10^{-8}	2.8	3.8×10^{-7}	0	0
Receptor on lower reaches of Cattaraugus Creek (liquid and airborne releases)	0.64	2.1×10^{-7}	0.29	1.1×10^{-7}	0.089	1.1×10^{-8}	0	0

LCF = latent cancer fatality.
[a] Phase 2 doses would be no greater than the Sitewide Removal Alternative or Sitewide Close-In-Place Alternative doses if one of these actions is selected.
[b] There is no dose or risk for the No Action Alternative because there would be no decommissioning actions for this alternative.

- Receptor on lower reaches of Cattaraugus Creek is SNI receptor
- Impacts from decommissioning actions are small, less than 1 millirem/year; background is estimated to be 360 millirem/year

Public Involvement Opportunities

Public Comment Period

- December 5, 2008, through June 8, 2009

Public Hearings

- Tuesday, **March 31**, 2009
  6:00 – 9:00 p.m.
  Seneca Nation of Indians
  William Seneca Building
  12837 Rte 438, Irving, NY
- Wednesday, **April 1**, 2009
  6:30 – 9:30 p.m.
  Ashford Office Complex
  9030 Route 219
  West Valley, NY
- Thursday, **April 2**, 2009
  6:30 – 9:30 p.m.
  Clarion Hotel–McKinley's Banquet & Conference Center
  S-3950 McKinley Parkway
  Blasdell, NY

www.westvalleyeis.com

Public Involvement Opportunities (cont)

- **Submitting Public Comments**
  - Written comments: Mail, fax, online
  - Oral comments: Public hearing
  - Comments received during the comment period will be considered during preparation of the Final EIS; late comments will be considered to the extent practicable

Fax Comments
866-306-9094

Mail Comments
Catherine Bohan
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West Valley Demonstration Project
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P.O. Box 2368
Germantown, MD 20874

Submit Electronic Comments
www.westvalleyeis.com

Please mark your comments with "Draft Decommissioning and/or Long-Term Stewardship EIS Comments"

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Schedule

Dec 08	▪ Notice of Availability published in Federal Register; Notice of Completion published in state Environmental Notice Bulletin ▪ DOE submits Decommissioning Plan (DP) to NRC and publishes Federal Register Notice making DP available for public inspection
Dec 08 – Mar 09	▪ NRC Acceptance Review
Dec 08 – Jun 09	▪ Six-month public comment period
Mar – Sep 09	▪ NRC reviews and issues Request for Additional Information (RAI)
Jun – Oct 09	▪ DOE responds to RAI
Jun – Dec 09	▪ NRC prepares Technical Evaluation Report (TER)
Nov 09	▪ Final EIS
Dec 09	▪ NRC transmits TER ▪ Record(s) of Decision and Statement of Findings

EIS
DP

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