West Valley Demonstration Project

Phase 1 Decommissioning at the WVDP
The Path Forward

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Topics to be Discussed

- Environmental Impact Statement
- Decommissioning Plan
- Phase 1 Studies

Environmental Impact Statement (EIS)

- Final EIS for Decommissioning and/or Long-Term Stewardship at the WVDP and WNYNSC was issued January 29, 2010.
- Four closure alternatives evaluated:
  - Total Removal
  - Close in Place
  - Phased Decisionmaking
  - No Action
- Record of Decision (ROD) issued April 2010, Phased Decisionmaking was the selected alternative.

EIS - Record of Decision

- Phased Decisionmaking Alternative (2 Phases)
  - Phase 1
    - Remove Main Plant Process Building (MPPB), Vitrification Facility, and the underlying source area of the North Plateau Groundwater Plume (NPGP)
    - Remove Lagoons 1-5, wastewater treatment facilities, and underlying soils
    - Manage NDA and the Waste Tank Farm (WTF) Tank and Vault Drying System
    - Conduct Phase 1 Studies
    - Phase 1 Decommissioning expected to begin July 2011
  - Phase 2
    - Final decommissioning of remaining facilities (NDA, WTF, CDDL, non-source area of North Plateau Plume)

WVDP Site

Phased Decisionmaking

- Phased Decisionmaking ROD
- Phase 1 Decommissioning Plan

Phase 1 Studies

- Final Decommissioning ROD
- Phase 2 Decommissioning Plan

Phase 1 Decommissioning
(Completed 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

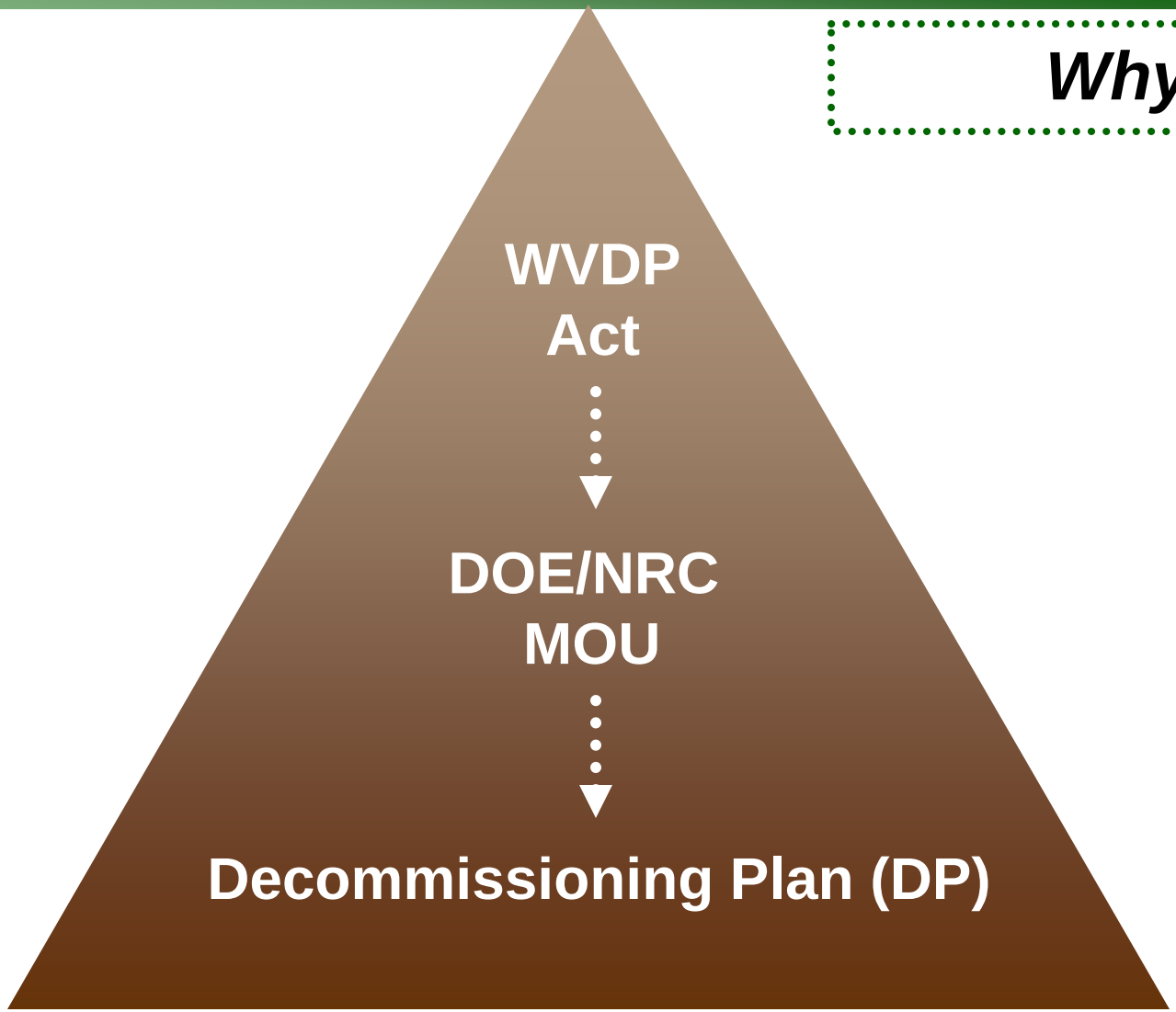
Phase 1 Soil Remediation
- Remove Below Grade Portion of MPPB and Vit (including source area of plume)
- Remove Lagoons and Liquid Waste Treatment Facility
- Ship Legacy TRU Waste
- Remove Remote Handled Waste Facility and remaining ancillary facilities
- Remediate all WMA 1 & 2 Soil

Phase 2 Decommissioning

Phase 2 Decisions
- HLW Canister Shipment (permanent disposal decision)
- Phase 2 Decision for:
  - Waste Tank Farm
  - NRC-licensed Disposal Area (NDA)
  - State-licensed Disposal Area (SDA)
  - Construction and Demolition Debris Landfill (CDDL)
  - Non-source area of groundwater plume

Phase 1 Decommissioning Plan

Why?



Phase 1 Decommissioning Plan (DP) for the WVDP

- Identifies Phase 1 decommissioning actions within Project Premises
- Consistent with EIS Phased Decisionmaking Alternative
  - Removal of MPPB, Vitrification Facility, and underlying source area of NPGP
  - Removal of Lagoons 1-5, wastewater treatment facilities, and underlying soils
- Phase 1 Decommissioning will be completed in a manner that ensures that all decommissioning options (Ongoing License, Restricted Release, Unrestricted Release) are available for Phase 2 areas
- Developed Derived Concentration Guideline Levels (DCGLs) for surface soil, subsurface soil, and streambed sediment that meet unrestricted release criteria (<25 mrem/yr) of 10 CFR 20.1402
- DP supporting documents include Characterization Sampling and Analysis Plan (CSAP) and Phase 1 Final Status Survey Plan (FSSP)

Decommissioning Plan Supporting Documents

- Characterization Sampling and Analysis Plant (CSAP)
  - Identifies surface soil, subsurface soil, and streambed sediment radiological characterization activities within Project Premises to support Phase 1 decommissioning

- Phase 1 Final Status Survey Plan (FSSP)
  - Identifies the technical basis and protocols to support data collection and interpretation to complete the Phase 1 Final Status Surveys (FSS) within the Project Premises

Phased Decisionmaking

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Phase 1 Study Process

- DOE and NYSERDA have agreed to perform scientific studies during Phase 1 to facilitate interagency consensus to complete decommissioning of facilities remaining at West Valley site following completion of Phase 1 decommissioning
- DOE and NYSERDA have spent much time and effort to develop a process by which
  - Phase 1 Studies may be conducted jointly, each agency having an equal voice
  - Open and transparent dialogue with all stakeholders with opportunities for meaningful input through the process
  - Independent scientific input to process
- DOE and NYSERDA will jointly fund Phase 1 Studies through an independent, agency-neutral 8(a) contractor

Phase 1 Studies – Potential Areas of Study

- Phase 1 Studies will examine a number of Potential Areas of Study
  - Soil Erosion
  - Groundwater Flow and Contaminant Transport
  - Catastrophic release of contamination and impact on Lake Erie
  - Slope stability and slope failure
  - Seismic hazard
  - Probabilistic vs. deterministic dose and risk analysis
  - Alternate approaches to and cost of complete waste and tank exhumation
  - Viability, cost, and benefit of partial exhumation of waste and removal of contamination
  - Exhumation uncertainties and benefit of pilot exhumation activities
  - In-place closure containment technologies
  - Engineered barrier performance
  - Additional characterization needs
  - Cost discounting and cost benefit analyses over long time periods

WVDP Site

WVDP Site