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

June 29, 2010

Mr. John G. McKibbin
President & Project Manager
West Valley Environmental Services LLC
10282 Rock Springs Road
West Valley, NY 14171-9799

ATTENTION: C. A. Biedermann, Regulatory Strategy Manager, AC-EA

SUBJECT: Environmental Checklist WVDP-2010-03, "Installation and Operation of the North Plateau (NP) Full Scale Permeable Treatment Wall (PTW)"

REFERENCE: Letter WD:2010:0214 (103132), C. A. Biedermann to B. C. Bower, "Environmental Checklist WVDP-2010-03, 'Installation and Operation of the North Plateau (NP) Full Scale Permeable Treatment Wall (PTW),'" supersedes Environmental Checklist WVDP-2009-06, dated June 8, 2010

Dear Mr. McKibbin:

I have reviewed the subject Environmental Checklist and agree that the actions described therein are categorically excluded per Title 10, Code of Federal Regulations (CFR) Part 1021, as Amended, Appendix B to Subpart D, CX B1.6, B1.13, B6.1(e), and B6.9. Enclosed is a signed environmental checklist form to that effect.

The contents of this correspondence are not intended to impact or modify contract scope and/or cost. If you have any questions, please contact me on Extension 4159.

Sincerely,

Martin P. Krentz
National Environmental Policy Act Compliance Officer
West Valley Demonstration Project

Enclosure: Signed Environmental Checklist

cc: M. S. Bellis, DOE-EMCBC, WV-DOE, w/enc.
C. M. Bohan, DOE-EMCBC, AC-DOE, w/enc.
J. Moon, DOE-HQ, EM-52, FORS, w/enc.
M. P. Krentz, DOE-WVDP, AC-DOE, w/enc.
M. N. Maloney, DOE-WVDP, AC-DOE, w/enc.
J. R. Gerber, WVES, AC-ESHQ, w/enc.
J. J. Hoch, WVES, AC-PL6, w/enc.

MPK:103208 - 451.4

Department of Energy
West Valley Demonstration Project (DOE-WVDP)

ENVIRONMENTAL CHECKLIST

Project/Activity Title: Installation and Operation of the North Plateau (NP) Full Scale Permeable Treatment Wall (PTW)	**NEPA ID Number:** WVDP-2010-03 **Rev. #:** 0 **Date:** 05/11/10
Contractor Project Manager: C. A. Biedermann	**Phone Number:** (716) 942-4333
Contractor NEPA Coordinator: J. J. Hoch	**Phone Number:** (716) 942-2409
DOE-WVDP NEPA Document Manager: C. M. Bohan	**Phone Number:** (716) 942-4159

A. BRIEF PROJECT/ACTIVITY DESCRIPTION: Attach a detailed description or statement of work.

B. SOURCES OF IMPACT: Would the action involve, generate, or result in changes to any of the following?

	YES	NO		YES	NO
1. Air Emissions	X		12. Water Use/Diversion	X	
2. Liquid Effluents	X		13. Water Treatment	X	
3. Solid Waste	X		14. Water Course Modification	X	
4. Radioactive Waste/Soil	X		15. Radiation/Toxic Chemical Exposures	X	
5. Hazardous Waste		X	16. Pesticide/Herbicide Use		X
6. Mixed Waste		X	17. High Energy Source/Explosives	X	
7. Chemical Storage/Use	X		18. Transportation	X	
8. Petroleum Storage/Use	X		19. Noise Level	X	
9. Asbestos		X	20. Workforce Adjustment	X	
10. Utilities	X		21. Other		X
11. Clearing or Excavation	X				

In an attachment, qualify and explain each question that you have specifically answered "YES."

C. CATEGORY EVALUATION CRITERIA: Would the proposed action:

	YES	NO
1. Take place in an area of previous or ongoing disturbance?	X	
2. Create hazardous, radioactive or mixed waste for which no disposal is available?		X
3. Impact a RCRA-regulated unit or facility?		X
4. Force a low income or ethnic minority population to shoulder a disproportionate share of the negative environmental impacts of pollution or environmental hazards because of a lack of political or economic strength?		X
5. Involve air emissions and be located in an air pollutant non-attainment or maintenance area for any criteria pollutants?		X
6. Threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, including DOE and/or Executive Orders? (i.e., require any federal, state or local permits, approvals, etc.)?		X
7. Disturb hazardous substances, pollutants or contaminants that pre-exist in the environment such that there would be uncontrolled or unpermitted releases?		X
8. Require siting, construction, or major expansion of a waste storage, disposal, recovery, or treatment facilities, but may include such categorically-excluded facilities?		X
9. Adversely affect environmentally sensitive resources including, but not limited to: structures of archeological, historic or architectural significance; threatened or endangered species or their habitat; floodplains or wetlands; wildlife refuges, agricultural lands or vital water resources(e.g., sole-source aquifers)?	X	
10. Involve extraordinary circumstances? As specified at 10 CFR § 1021.410(b)(2), extraordinary circumstances are unique situations presented by specific proposed actions, such as scientific controversy about the environmental effects of the action, uncertain effects or effects involving unique or unknown risks, or unresolved conflicts concerning alternate uses of available resources within the meaning of Section 102(2)(E) of NEPA [42 U.S.C. 4332(2)].		X
11. Be "connected" to other actions with potentially significant impacts, related to other proposed actions with cumulatively significant impacts, and precluded by 40 CFR § 1506.1 or 10 CFR § 1021.211?		X

In an attachment, qualify and explain each question that you have specifically answered "YES."

ENVIRONMENTAL CHECKLIST

D. RECOMMENDATION AND DETERMINATION

DOE-WVDP Director's Recommendation: I find and recommend that this proposed action meets the criteria specified in 10 CFR § 1021, Subpart D, and/or DOE Policy and Guidance for the following:

[X] Categorical Exclusions (Appendix B, Class of Action B1.6, B1.13, B6.1(e), and B 6.9)
[ ] Actions Within the Scope of Existing NEPA Documentation (NEPA Document ID Number_____)
[ ] *On-going Operations* (Standard Operating Procedure OH-6.1.01, Rev. 1, Section 5.2)

Signature: _____ Date 06-24-2010
Director, West Valley Demonstration Project (WVDP),
Department of Energy

DOE-WVDP NEPA Compliance Officer's Determination: Based on my review of the attached information concerning this proposed action, as the WVDP NEPA Compliance Officer (DOE Order 451.1B, Section 5.d.), I have determined that the proposed action fits within the specified class of actions, that the other regulatory requirements identified in Section C are met, and that this proposed action may proceed without further NEPA review.

Signature: _____ Date 6-28-2010
DOE-WVDP NEPA Compliance Officer,
West Valley Demonstration Project

OR

[ ] Environmental Assessments (Appendix C, Class of Action _____; or Action not listed in Subpart D)
[ ] Environmental Impact Statements (Appendix D, Class of Action _____)
[ ] Interim Actions (40 CFR § 1506.1 and 10 CFR § 1021.211)
[ ] Integrated Documentation for CERCLA/RCRA Actions
[ ] Variances (Emergency Action, 40 CFR § 1506.11 and 10 CFR § 1021.34)

DOE-WVDP NEPA Compliance Officer's Concurrence: I concur with the recommendation that this proposed action fits within the specified class of actions.

Signature: _____ Date _____
DOE-WVDP NEPA Compliance Officer,
West Valley Demonstration Project

DOE-WVDP Manager's Determination: Based on my review of the attached information concerning this proposed action, as the Director of the West Valley Demonstration Project (DOE Order 451.1A, Section 5.a.), I have determined that the level of documentation recommended for the proposed action is appropriate.

Signature: _____ Date _____
Director, West Valley Demonstration Project (WVDP),
Department of Energy

Attachment to Environmental Checklist WVDP-2010-03
"Installation and Operation of the North Plateau (NP) Full Scale Permeable Treatment Wall (PTW)"

SECTION A. PROJECT/ACTIVITY DESCRIPTION:

1.0 BACKGROUND

From 1966 to 1972, Nuclear Fuel Services, Inc. (NFS) operated a nuclear fuel reprocessing plant at the Western New York Nuclear Service Center (WNYNSC) near West Valley, New York. The plant, which reclaimed uranium and plutonium from spent nuclear fuel, generated approximately 600,000 gallons of liquid high-level radioactive waste (HLW), which was stored in underground tanks located at the site.

In 1980, Congress passed the West Valley Demonstration Project (WVDP) Act, which directed the U. S. Department of Energy (DOE) to do the following: (1) solidify the HLW at the WNYNSC in a form suitable for transportation and disposal; (2) develop containers for the HLW that are suitable for permanent disposal; (3) transport the solidified HLW, in accordance with applicable provisions of law, to an appropriate Federal repository for permanent disposal; (4) in accordance with applicable licensing requirements, dispose of low-level radioactive waste (LLW) and transuranic (TRU) waste produced as a result of solidifying the HLW; and (5) decontaminate and decommission: (a) the tanks and other facilities of the WNYNSC in which the HLW solidified under the Project is stored; (b) the facilities used in the solidification of the waste; and (c) any material and hardware used in connection with the Project, in accordance with requirements that the U. S. Nuclear Regulatory Commission (NRC) may prescribe (Public Law 96-368).

During the early 1990's the WVDP identified an area of elevated gross beta concentrations in groundwater near the nuclear fuel reprocessing building (Main Plant Process Building (MPPB)). In 1993, surface water in a ditch known as the "swamp ditch" near the edge of the North Plateau (NP) was found to contain elevated gross beta concentrations. A Geoprobe® subsurface soil and groundwater sampling program conducted in 1994 further characterized the lateral and vertical extent of the elevated gross beta concentrations in soil and groundwater underlying the NP. Strontium-90 and its daughter product, yttrium-90, were found to be the primary contributors to the measured gross beta concentrations. Subsequent Geoprobe® investigations conducted in 1997, 1999, and 2008 refined the distribution of the beta-emitters in soil and groundwater, and further characterized hydrogeologic conditions on the NP. The plume of impacted groundwater extends approximately 1,400 feet in a northeasterly direction from the MPPB area toward the swamp ditch. The groundwater plume is slowly advancing in a north-northeasterly direction and discharges to topographical low areas contiguous to the swamp ditch and the swamp ditch itself. As a result of this discharge, detectable concentrations above the DOE's derived concentration guideline (DCG) for Sr-90 have been found in surface water flowing from the NP beyond the WVDP premises.

In 1995, the NP groundwater recovery system (NPGRS) was installed and operated to collect and remove Sr-90 from impacted groundwater near the leading edge of the plume west of the Low Level Waste Treatment Facility lagoons. The NPGRS was effective in limiting the seepage of impacted groundwater to the ground surface in a topographic low west and southwest of the Construction and Demolition Debris Landfill (CDDL) (see Figure 1). It was not expected to completely mitigate advance of the plume toward the swamp ditch. In 1999, a pilot permeable

treatment wall (PTW) was constructed on a small segment (approximately 30 feet long) of the eastern portion of the plume to demonstrate the feasibility of plume mitigation using passive in-situ fixation technology. A subsequent remediation alternatives analysis (Geomatrix 2007) commissioned by West Valley Nuclear Services Company (WVNSCO) on behalf of the DOE resulted in a recommendation to install a subsurface PTW to address groundwater impacted by Sr-90 in the NP plume and in seepage water in the swamp ditch area on the NP. A subsequent field investigation (West Valley Environmental Services [WVES] 2008) was initiated in October 2008 to acquire additional data to help support final design of the PTW. The 30% design of the PTW was completed in late 2009 with final design targeted to be completed in June 2010. This document addresses the installation and operation of the full scale PTW based on information ascertained to date. The design of the PTW is complete relative to location, size, reactive media, and installation method (one pass trencher). What continues to be developed are finalized specifics associated with installation support processes such as handling of soil being excavated from the trench and ancillary excavated soils, construction of soil catchment structure, construction materials associated with stormwater conveyances, electrical utility pole movements, etc. Therefore, the following scope provides for several options that are being evaluated.

In March 2003, the DOE published a Notice of Intent in the Federal Register announcing the intent to prepare, in cooperation with the New York State Energy Research and Development Authority (NYSERDA), a revision to the draft EIS prepared in 1996 for the decommissioning and/or long-term stewardship at the WVDP and the WNYNSC. The DOE and NYSERDA are joint lead agencies on this EIS and the Environmental Protection Agency (EPA), Nuclear Regulatory Commission (NRC), and the New York State Department of Environmental Conservation (NYSDEC) are cooperating agencies. The New York State Department of Health is an involved agency. On January 29, 2010, the U.S. Department of Energy (DOE) announced the availability of 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* (DOE/EIS–0226) (referred to as the ''Decommissioning and/or Long-Term Stewardship EIS'' or ''Final EIS''). The Final EIS analyzes three action alternatives for decommissioning the site and/or long-term stewardship, as well as a No Action Alternative as required by the National Environmental Policy Act (NEPA) and the (New York) State Environmental Quality Review Act (SEQR). The mitigation of the leading edge of the NP plume through use of a temporary measure such as a subsurface PTW was an assumed starting point condition for the actions evaluated in the Final EIS. DOE issued a Record of Decision on April 14, 2010 based on this EIS.

2.0 TYPE AND SCOPE OF ACTIVITY

Note: reported values should be considered Rough Order of Magnitude (ROM) as actual values may vary approximately +/-25%

The proposed work will be implemented to minimize the future subsurface expansion of Sr-90 contamination past the 10,000 pCi/g isopleth as described in WVDP-500, "WVDP North Plateau Characterization To Support Design Of Stronium-90 Groundwater Plume Mitigation Measure(s)", i.e., to mitigate the spread of Sr-90 in groundwater underlying the NP of the

WVDP. The NP plume is not identified by EPA/NYSDEC as a Solid Waste Management Unit (SWMU).

The scope of work considered in this NEPA Environmental Checklist includes the installation of a "surface to below grade" PTW at or near the downgradient edge of the Sr-90 groundwater plume as described in the "draft" final design. Relative to PTW trench soil management, the following options have been identified as potential means to move the excavated soil into a lined catchment area:

- Movement of soil from the trencher to an above grade catchment area by use of a conveyor system. The conveyor system will be demonstrated prior to utilization.

- Movement of soil from the trencher into a catchment using heavy equipment (e.g., rubber tired excavator)

- In the event the conveyor does not work for both wet and dryer soils, the east and west ends of the initial roadbed will be raised along the PTW alignment a sufficient amount to allow excavated soil from the trencher to flow or be pulled into an above grade catchment area. A below grade catchment area will be excavated along the center section of the alignment (approximately 250 ft) to allow the spoils to flow or be pulled into this catchment area. This below grade catchment area is necessary in this section of the trench because the required depth of the excavation is near the limit of the trencher precluding raising the road surface.

- In the event the conveyor works for dryer soils but not for wetter soils, only an excavation of a below grade lined containment along the approximately 250 ft. section of the PTW that is expected to produce wet soil is proposed.

Other workscope components, necessary to support the installation and function of the PTW, which are generally located north of the Vitrification Test Facility (VTF), east of the Lag Storage Building (LSA3/4), south of the Construction and Demolition and Debris Landfill (CDDL), and west of the fence line adjacent to the electrical substation, are as follows:

- Development of a project specific Storm Water Pollution Prevention Plan (SWPPP) and submittal of a Completed Notice of Intent for approval to utilize the NYSDEC State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity, Permit GP-0-10-001.

- Storm water management (including construction of new storm water conveyances and installation of piping (ROM ~800' long); discontinued use of existing storm water conveyances (e.g., swale/pipe that currently passes under road on which PTW will be installed); etc)

- Installation of storm water management devices (e.g. silt fence) consistent with the Storm Water Pollution Prevention Plan under development.

- Relocation of utility poles (~2 poles).
- Possible excavation of additional soils to construct below grade soil catchment area (ROM ~30,000 cu ft for excavation to address middle 250 ft of PTW).
- Installation of a water-tight catch basin for collection of contaminated water from soil containment and construction areas with pumping capabilities to Lagoon 2 swale.
- Construction and use of above grade lined (60 mil EDPM) soil catchment area in which excavated soils (all or portion) will be placed. The area will contain a passive water collection system (e.g., drainage pipe) to collect water that drains from saturated excavated soil. Water will be directed to Lagoon 2, via the contaminated construction catch basin referenced above.
- Installation of a new site road (ROM~900' long, 22' wide).
- Installation of a non-contaminated storm water catch basin with a gravity drain to the surface water drainage system south of the new construction road adjacent to the soil catchment.
- Possible construction of raised platform (addition to current access road) along which the trencher would advance and the soils would be collected.
- Possible additional subsurface soil and/or groundwater investigation for siting the PTW alignment and monitoring wells.
- Excavation and simultaneous backfill (with zeolite) of the PTW trench (approximately 860 ft. long and up to 30' deep by 36" wide) utilizing a one-pass trencher.
- Delivery and staging of approximately 2000 one-ton bags of ion exchange backfill media (zeolite (clinoptilolite)).
- Construction of a temporary equipment decontamination tent with the routing of the collection water for the decontamination process being routed to Lagoon 2 via the contaminated construction catch basin.
- Placement of approximately 290 tons of clean fill as a PTW trench cover.
- Installation of PTW monitoring wells (approximately 60).
- Health, safety, and radiological contamination controls.
- Site restoration activities.

- Decommissioning of existing wells that will interfere with PTW installation (approximately 40 wells).

This list attempts to cover alternatives that may arise, as discussed above, from continuing installation planning activities. The excavation of the PTW trench, installation of the respective monitoring piezometers/wells and installation of the PTW would involve removal of radiologically impacted subsurface soils. However, the excavation would be radiologically monitored so that when radioactively contaminated soil is encountered it can be contained and controlled. Soil greater than 4,500 pCi/g will be managed as LLW and soil less than 4,500 pCi/g will be managed as environmental media in a manner that would prevent the spread of radiological contamination.

Attached for reference is Figure 1 - Location of Proposed PTW, Storm Water Drainage Reconfiguration and Replacement Access Route.

3.0 PURPOSE AND NEED

The **purpose** of this work is to minimize the future subsurface expansion of Sr-90 contamination past the 10,000 pCi/g isopleth as described in WVDP-500. Installation of the PTW would not preclude the ability to implement any remedies or actions undertaken at the site during subsequent site decommissioning activities pursuant to a final decommissioning decision regarding the North Plateau.

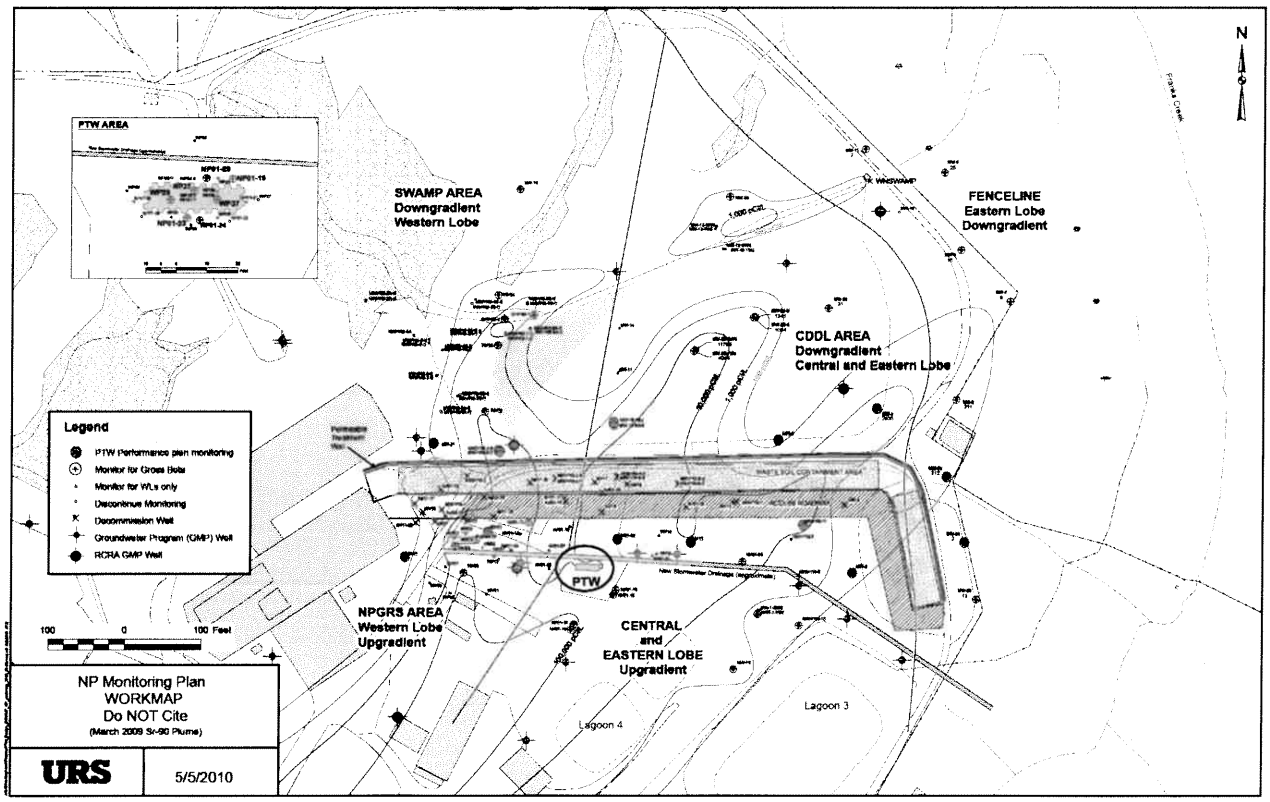
The **need** is for the U.S. Department of Energy to continue to fulfill its obligations under the West Valley Demonstration Project (WVDP) to manage and mitigate health, safety, and environmental risks associated with the WVDP, in preparation for implementation of final project decommissioning.

4.0 SCHEDULE/TIMING/COST

The cost of the proposed activities is expected to be no more than approximately $7.0 – 9.0 million and the implementation is anticipated to be within one construction season (weather permitting) starting in 2010. It could extend into more than one construction season depending on the start date, and delays beyond management control due to factors such as weather. Operation of the system is provided for in this action. The full scale PTW system is expected to provide a passive, functional treatment barrier for up to 20 years.

Attachment to Environmental Checklist WVDP-2010-03
"Installation and Operation of the North Plateau (NP) Full Scale
Permeable Treatment Wall (PTW)"

Figure 1
Location of Proposed PTW, Storm Water Drainage Reconfiguration, and Replacement Access Route



SECTION B. SOURCES OF IMPACT

1. **Air Emissions**: Radioactive air emissions at DOE facilities are regulated in New York State by the EPA pursuant to 40 Code of Federal Regulations (CFR) Part 61, "National Emission Standards for Hazardous Air Pollutants" (NESHAP), Subpart H. Similarly, nonradioactive emissions are regulated by the NYSDEC pursuant to Title 6 of the New York Compilation of Codes Rules and Regulations (NYCRR) Part 201.

WVES has evaluated the subject activity based on design information received to date. This evaluation indicates that no request for approval needs to be submitted to the USEPA, because in accordance with the requirements of 40CFR61 subpart H, section 61.96, the dose (the EDE, calculated based on maximum abated emissions) to the maximally exposed off-site individual (the MEOSI) is not calculated to exceed the dose threshold of 0.1 mrem. Therefore this activity would be judged to be exempt from the need for approval under this section of subpart H. Additionally, since this activity produces potential diffuse source emissions, prospectively determined continuous monitoring requirements in 40CFR61, subpart H are not applicable. This rad-NESHAP evaluation will be revisited relative to design/plan modifications that may arise.

Operation of diesel-powered excavation and grading vehicles, such as a trencher, excavators, dump trucks, and bull dozers, would generate minor air emissions such as carbon monoxide, carbon dioxide, and particulate matter during the construction of the PTW. Some dust may be generated by handling of the zeolite and excavation activities.

Dust generation from trenching activities is not anticipated due to the water content in the existing soil. If dry conditions are encountered, water misting will be utilized. Water will be added to the zeolite while in the hopper to minimize dust generation during placement in the trench.

2. **Liquid Effluents**: Storm water control is needed during construction activities. A Storm Water Pollution Prevention Plan (SWPPP) along with the filing of a Notice of Intent to use the Storm Water General Permit for Construction Activities will be prepared and provided to the NYSDEC. The SWPPP will meet the respective criteria as contained in the NYSDEC State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity, Permit GP-0-10-001.

   A SPDES permit modification will be requested to include new storm water drainage patterns, flow controls, and surface water discharges resulting from installation and operation of the PTW in accordance with the applicable regulations in 6 NYCRR Part 750. New storm water controls anticipated may include the detention (to be limited in size to less than one (1) acre) and controlled discharge of clean storm water runoff from the construction area so that the rate of storm water flow to the receiving waters does not increase from pre-development conditions. All actions needed to minimize environmental impacts from changes to the storm water drainage will be taken to maintain compliance with the SPDES regulations. Outfalls will remain consistent with effluent quality standards and volumes.

   Should this project generate any waste waters, the waste waters would be managed in accordance with the WVDP SPDES permit NY-000-0973.

3. **Solid Waste**: Solid waste anticipated as a result of the proposed action would consist of construction debris (e.g., concrete, metal, wood, plastic, and paper). These wastes would be managed for disposal, as specified in SOP 09-12, "Solid Waste Management and Material Reuse and Recycling."

4. **Radioactive Waste/Soil**: Radioactively contaminated soil will be encountered during construction activities. In 1999, about 8,500 cubic feet of soil was excavated to install a pilot PTW at its location in the same general areas as the proposed PTW. The pilot PTW wall was constructed in an area of the plume where Sr-90 levels in groundwater were in a range of 10,000 to 80,000 pCi/L.

   In February 2010, approximately 40 soil borings were advanced along the PTW alignment ("Work Scope for Borings Along Alignment of North Plateau PTW, December 18, 2009"). Soil samples were retrieved from the 5 borings exhibiting the highest Geiger Mueller Counter (GM)readings and sent to an offsite laboratory for Sr-90 analysis. Additionally, to assess the need for radiological air monitoring and/or respiratory protection during NP PTW installation, 5 soil samples were collected and analyzed for the full suite of site-associated radionuclides (Data Quality Objectives Applied to Samples Being Collected for Radiological Air Monitoring/Respiratory Protection Determinations Associated with Future NP PTW Installation, Rev 0, 1/21/10).

   Using this generated 2010 data, a conservative isotopic distribution characterization was created by taking the highest detected concentration for each isotope in any of the samples and combining such into one distribution. Based on this data and using the conservative parameters, excavated soil that will be shipped for disposal would meet NRC Class A waste criteria and DOT package class of "exempt quantity". Using this conservative distribution, the soil would also meet the currently established profile for disposition of WVDP soils at Energy Solutions (profile 8002-04).

   Design considerations for construction of the PTW include an assessment of potential worker exposure issues, as well as proper soil management, including waste soil handling/packaging and disposal. PTW construction projections of soil contamination indicated that the most contaminated soil would meet WVDP requirements for containment (45 pCi/g beta-gamma), but not for containerization (4,500 pCi/g) per WVDP-304, "Technical Basis for Contaminated Soil Management" and WVDP-010, "WVDP Radiological Controls Manual." As Low As Reasonably Achievable (ALARA) requirements were considered during the PTW design review and an ALARA Review Checklist (WV-2404) was previously completed. It is believed at this time that no formal ALARA review would be required.

   The amount of other radioactive waste generated (e.g., anti-Cs, gloves, wipes, swipes, unusable empty containers, and air filters) as a result of this activity will be minimal (aside from soil). The collection and management of this waste will be handled in accordance with existing site procedures.

5. **Hazardous Waste**: On the basis of process knowledge and historical subsurface investigations: a) soils to be encountered during the PTW construction activities will not be considered hazardous waste, and b) no hazardous waste is expected to be encountered in areas to be excavated.

To establish the waste characterization profile for the 1999 pilot PTW soils, process knowledge was used to characterize the excavated soil as RCRA non-hazardous.

In addition to the process knowledge used to characterize the 1999 soils, an ancillary in-place soil data set was compiled for use in determining the potential concentrations of volatile and semi-volatile organic compounds and/or metals in the soils that will be excavated to install the PTW in 2010. In-place soil data stored in the West Valley Demonstration Project (WVDP) Laboratory Information Management System (LIMS) were queried to determine which soil sampling locations have been analyzed historically for metals or organics. These locations were then plotted on a map and a list compiled of all sampling locations within 100 meters (328 feet) of the proposed pilot PTW alignment. The locations found to have data available for metals and organics within 100 meters of the PTW were all from subsurface and surface soil samples collected during the RCRA Facility Investigations (RFIs). [The WVDP RFIs have all been approved by the U. S. Environmental Protection Agency and the New York State Department of Environmental Conservation and are available upon request.] Additional soil characterization information is presented in WVDP-494, West Valley Demonstration Project North Plateau Plume Area Characterization Report, April 2009. However, these characterization efforts concentrated on the plume source area, the nearest sampling location was approximately 160 meters (525 feet) south of the proposed PTW Location. [WVDP background soil concentrations are identified in WVDP-493, West Valley Demonstration Project North Plateau Background Soil Characterization Report, February 2009.]

In evaluating the data associated with sampling locations within 100 meters of the PTW, all organic compound data were found to be at concentrations below the laboratory quantization limits. Metals data across the North Plateau are highly variable, as was found true for the background values and is expected from the heterogeneous glacial deposits on the North Plateau.

Based on the in-place soil data, soils excavated for the PTW are not expected to exceed any RCRA action levels, inclusive of the 6 NYCRR 371 toxicity characteristic regulatory thresholds associated with characterizing the soil upon its generation as a waste form.

6. **Mixed Waste**: N/A

7. **Chemical Storage/Use**: Approximately 2,000 one-ton supersacks of zeolite could be stored on-site pending trench installation. The material would be handled and disposed of in accordance with site policies, directives, and procedures.

8. **Petroleum Storage/Use:** Only small quantities would be used, associated with construction equipment executing the approved scope of work. Existing site policies and procedures controlling the use of such equipment would be in effect. Any above ground storage would be double contained. Spills would be handled in accordance with approved spill plans.

9. **Asbestos**: N/A

10. **Utilities**: Electrical utility pole(s) (ROM 2) located within the boundary of the construction area will be relocated. Refer to Section 17, High Energy Sources below.

11. **Clearing/Excavation**: Excavation work will be performed to excavate the trench for installing the PTW as described in Section 2.0 above, install storm water conveyances, install/relocate electrical poles, etc. Excavations will be performed with the appropriate excavation equipment and in compliance with the health, safety and radiation control procedures and plans. Controlled staging and work areas will be established for the excavated material and for the zeolite media.

12. **Water Use/Diversion**: Water will be needed for zeolite installation into the PTW Trench, and for equipment cleaning in connection with decontamination of construction equipment. Water may also be used to suppress dust from excavation activities and zeolite handling. Water will be obtained from the existing site water supplies.

13. **Water Treatment**: Any water generated from dewatering of excavated soil during temporary storage will be collected and routed to Lagoon 2 for treatment in the Low-Level Waste Treatment Facility prior to discharge in accordance with the WVDP State Pollutant Discharge Elimination System (SPDES) permit NY-000-0973. Storm water treatment would be limited to the reduction of suspended solids in storm water run-off through the use of controls such as silt fences and settling type structures. The specific controls will be identified in the SWPPP.

14. **Water Course Modification**: Modification of water courses will be limited to on site drainage ditches. Designs will meet New York State SPDES permit criteria. It is not anticipated that there will be any modifications or impacts to any of the natural water courses or area wetlands. Based on the final design and the permanent relocation of the SPDES Permit monitored storm water outfall, a modification to the SPDES Permit application will be provided to NYSDEC.

15. **Radiation/Toxic Chemical Exposure**: Exposure to contamination is not anticipated. However, all work in radiologically controlled areas, or where contamination is encountered will be maintained as low as reasonably achievable (ALARA) and will be in compliance with State and Federal regulations and DOE Orders, as implemented by the Radiological Controls Manual. Worker exposure is limited by guidance provided in the WVDP Radiological Controls Manual, WVDP "Industrial Hygiene and Safety Manual" (WVDP-011), and SOP 15-14, "Entry Into and Exit From Contaminated Areas." The individual dose to operators would not exceed the administrative control limit of 100 mrem/day and 500 mrem/year (WVDP-010). Chemical exposure to site personnel is assessed and monitored in accordance with the "Industrial Hygiene and Safety Exposure Assessment and Monitoring Plan" (WVDP-215) and WVDP Industrial Hygiene and Safety Manual (WVDP-011).

16. **Pesticide/Herbicide Use**: N/A

17. **High Energy Source/Explosives**: 2 - Utility pole(s) carrying 35kv electrical services located within the boundary of the construction area will need to be relocated. The installation, testing, inspection, and enabling of 35 kv electrical equipment including aerial lines and poles, will be performed by an appropriately licensed and certified subcontractor. Safety procedures of the subcontractor will be reviewed and approved by WVES.

18. **Transportation**: Radiation levels for all packaged waste will be within applicable Federal DOT requirements specified in 49 CFR Parts 173 and 177. Waste containers will be transported on-site in accordance with SOP 300-07, "Waste Generation, Packaging and On-site Transportation."

19. **Noise Level**: There will be an increase in noise levels typical of the types of construction equipment utilized for this work (e.g., excavators, trucks, bulldozers, etc). Noise levels may exceed 97 dBA. Applicable federal and state regulations, and DOE orders, as implemented by contractor safety procedures will be observed during the work.

20. **Workforce Adjustments**: This project will result in a temporary increase of less than 20 contractor employees to the WVDP workforce intermittently during the project. This represents a less than 10% increase in current site population and would not encroach upon site services (e.g., parking, sewage treatment, etc.)

21. **Other**: N/A

SECTION C. CATEGORY EVALUATION CRITERIA

1. **Take place in an area of previous or on-going disturbance?** Yes. Proposed activities would take place along an existing roadway with a proposed new access roadway, composed of compacted granular material, installed near the pilot PTW location and north of the lagoons which is an area of previous disturbance.

2. **Create hazardous, radioactive or mixed waste for which no disposal is available?** No.

3. **Impact a RCRA-regulated unit or facility?** No. There are no nearby RCRA Interim Status Treatment and/or Storage Units that would be impacted by the PTW construction. Three interim status Solid Waste Management Units (SWMUs) that are regulated under the NYSDEC regulation 6 NYCRR Part 373-3 and pursuant to the 3008(h) Administrative Order on Consent, Docket No. II RCRA-3008(h)-92-0202 are located in the nearby vicinity of the proposed location of the proposed PTW. These SWMUs include: (1) SWMU # 1, the Construction and Demolition Debris Landfill (CDDL), which is north of the proposed PTW location; (2) SWMU # 30, the Cold Hardstand Area, immediately adjacent to the western segment of the proposed PTW; and (3) SWMU # 34, the Temporary Storage Locations for Well Purge Water, located south of the proposed PTW location. Excavation required to construct the PTW installation is not expected to intrude into or encounter any contamination associated with these SWMUs.

4. **Force a low income or ethnic minority population to shoulder a disproportionate share of the negative environmental impacts?** No.

5. **Involve air emissions and be located in an air pollutant non-attainment or maintenance area for any criteria pollutants?** No.

6. **Threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, including DOE and/or Executive Orders?** No.

7. **Disturb hazardous substances, pollutants or contaminants that pre-exist in the environment such that there would be uncontrolled or unpermitted releases?** No.

8. **Require siting, construction, or major expansion of a waste storage, disposal, recovery, or treatment facilities, but may include such caterogorically-excluded facilities?** No.

9. **Adversely affect environmentally sensitive resources?** Yes. Although the current design does not indicate work activities within any wetland buffer area, there is a potential for indirect impacts to nearby wetland areas. In this event, all federal and state wetland protection requirements will be met.

10. **Involve extraordinary circumstances?** No.

11. **Be "connected" to other actions with potentially significant impacts, related to other proposed actions with cumulatively significant impacts, and precluded by 40 CFR 1506.1 or 10 CFR 1021.211?** No.

SECTION D. RECOMMENDATION AND DETERMINATION

A categorical exclusion (CX) is recommended for the proposed action. A CX should be granted on the basis that the proposed action is within the scope of Title 10, Code of Federal Regulations (CFR) 1021, as amended, Subpart D:

Appendix B, B1.6, "Installation or modification of retention tanks or small (normally under one acre) basins and associated piping and pumps for existing operations to control runoff or spills (such as under 40 CFR Part 112). Modifications include, but are not limited to, installing liners or covers"

Appendix B, B1.13, "Construction, acquisition, and relocation of onsite pathways and short onsite access roads and railroads"

Appendix B, B6.1(e), "Small-scale, short-term cleanup actions, under RCRA, Atomic Energy Act, or other authorities, less than approximately 5 million dollars in cost and 5 years duration, to reduce risk to human health or the environment from the release or threat of release of a hazardous substance other than high-level radioactive waste and spent nuclear fuel, including

treatment (e.g., incineration), recovery, storage, or disposal of wastes at existing facilities currently handling the type of waste involved in the action. These actions include:

(e) Capping or other containment of contaminated soils or sludges if the capping or containment would not affect future groundwater remediation and if needed to reduce migration of hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products into soil, groundwater, surface water, or air.

Appendix B, B6.9, "Small-scale temporary measures to reduce migration of contaminated groundwater, including the siting, construction, operation, and decommissioning of necessary facilities. These measures include, but are not limited to, pumping, treating, storing, and reinjecting water, by mobile units or facilities that are built and then removed at the end of the action."

The proposed action falls within the scope and intent of the categorical exclusions identified above. In addition, the proposed action satisfies the general requirements for a categorical exclusion. There are no extraordinary circumstances related to the proposed action that would affect the significance of the action, and the action is not "connected" to other actions with potentially or cumulatively significant impacts (per 40 CFR 1508.25(a)(1) and (2), respectively).

Installation of the PTW has independent utility with respect to all decommissioning activities that may be undertaken as a result of the Final Decommissioning and/or Long-Term Stewardship EIS. Likewise, the action would not trigger other actions that require an EIS and could proceed without other actions taking place previously or simultaneously.

Attachment to Environmental Checklist WVDP-2010-03
"Installation and Operation of the North Plateau (NP) Full Scale Permeable Treatment Wall (PTW)"

SUPPORTING DOCUMENTS

DOE and NYSERDA	"Cooperative Agreement between United States Department of Energy and New York State Energy Research and Development Authority on the Western New York Nuclear Service Center at West Valley, New York", effective October 1, 1980, as amended September 18, 1981
DOE/EA-1552	U.S. Department of Energy, "Environmental Assessment for the Decontamination, Demolition, and Removal of Certain Facilities at the West Valley Demonstration Project Final," dated September 14, 2006
DOE-EIS-025	U. S. Department of Energy, "Supplement Analysis of Environmental Impacts Resulting from Modifications in the West Valley Demonstration Project", dated September 7, 1993
DOE/EIS-0081	U.S. Department of Energy, "Final Environmental Impact Statement: Long-Term Management of Liquid High-Level Radioactive Wastes Stored at the Western New York Nuclear Services Center, West Valley", dated June 1982
DOE/EIS-0226-D	U.S. Department of Energy, "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," dated November 2008
DOE/EIS-0337-F	U. S. Department of Energy, "West Valley Demonstration Project Waste Management Environmental Impact Statement Final," dated December 2003
DOE Order 435.1	U. S. Department of Energy, "Radioactive Waste Management", dated August 28, 2001
DOE Order 450.1A	U. S. Department of Energy, "Environmental Protection Program", Change 3, dated June 4, 2008
DOE Order 451.1B	U. S. Department of Energy, "National Environmental Policy Act Compliance Program", Change 1, dated September 28, 2001
EPA 3008(h)-9-0202	EPA Administrative Order on Consent to DOE and NYSERDA, Docket No. II RCRA-3008(h)-9-0202, March 1992.

Geomatrix 2007	"Focused Analysis of Remediation Alternatives for Groundwater Plume Expansion and Seepage to Surface Water. West Valley Demonstration Project – North Plateau Strontium-90 Plume West Valley, New York". Geomatrix Consultants, Inc., May 2007.
10 CFR Part 71	Nuclear Regulatory Commission, "Packaging and Transport of Radioactive Materials," dated January 1, 2004
10 CFR Part 1021	U. S. Department of Energy, "National Environmental Policy Act Implementing Procedures; Final Rule," dated January 1, 2004
40 CFR 61 Subpart H	U.S. Environmental Protection Agency, "National Emission Standard for Emissions of Radionuclides Other Than Radon From Department of Energy Facilities," as amended, dated July 1, 2004
40 CFR Parts 1500 -1508	U. S. Council on Environmental Quality, "Council on Environmental Quality Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act," dated July 1, 2004
49 CFR 173.401	U.S. Department of Transportation, Subpart I, "Class 7 - (Radioactive) Materials", dated October 1, 2003
42 U.S.C. 4321 *et seq.*	U.S. Congress, National Environmental Policy Act, as Amended, dated January 1, 1970
Public Law 96-368	U.S. Congress, West Valley Demonstration Project Act (S.2443), dated October 1, 1980
6 NYCRR Part 201	Permits and Certificates
6 NYCRR Part 370	Hazardous Waste Management System – General
6 NYCRR Part 373	Hazardous Waste Management Facilities
6 NYCRR Part 750	Obtaining a SPDES Permit
NYSDEC GP-02-01	New York State Department of Environmental Conservation SPDES General Permit For Storm Water Discharges from Construction Activity, Permit GP-02-01. January 8, 2003
WV-227	West Valley Demonstration Project, "Planning for Waste Treatment, Storage and Disposal", revision 6, dated July 7, 2004

WV-939	Management of Environmental Media, Including Soil, Stones, Rock, and Gravel, revision 0, dated August 31, 2009
WVDP-010	West Valley Demonstration Project, "Radiological Controls Manual," revision 27, dated November 8, 2006
WVDP-011	West Valley Demonstration Project, "WVDP Industrial Hygiene and Safety Manual", revision 26, dated February 6, 2007
WVDP-215	West Valley Nuclear Environmental Services LLC, "Industrial Hygiene and Safety Exposure Assessment and Monitoring Plan," revision 5, dated September 23, 2009
WVDP-238	West Valley Nuclear Services Company, "Low-level Radioactive Waste Classification Program Plan", revision 0, dated August 2, 1996
WVDP-287	West Valley Nuclear Services Company, "Data Collection Plan for Characterization of the State Pollutant Discharge Elimination System Source Waste Streams", revision 0, FC1, dated February 11, 1998
WVDP-321	West Valley Demonstration Project, "DOE/EIS-0081 Supplement Analysis II of Environmental Impacts Resulting from Modifications in the West Valley Demonstration Project", dated July 16, 1998
WVDP-489	West Valley Environmental Services LLC, "Characterization Plan for the Mitigation of the Leading Edge of the WVDP North Plateau Strontium-90 Plume," revision 1, dated October 15, 2008
WVDP-493	West Valley Demonstration Project North Plateau Background Soil Characterization Report
WVDP-494	West Valley Demonstration Project North Plateau Plume Area Characterization Report
WVDP-500	WVDP North Plateau Characterization To Support Design Of Stronium-90 Groundwater Plume Mitigation Measure(s)
SOP 09-12	West Valley Nuclear Services Company, "Solid Waste Management and Material Reuse and Recycling," revision 6, dated July 27, 2006

SOP 15-14	West Valley Environmental Services LLC, "Entry Into and Exit From Contaminated Areas," revision 25, dated March 17, 2010
SOP 40-04	West Valley Nuclear Services Company, "Landfill Inspection and Maintenance Plan", revision 2, dated November 4, 2002
SOP 300-07	West Valley Environmental Services LLC, "Waste Generation, Packaging, and On-Site Transportation", revision 55, dated February 18, 2010
SOP 300-15	West Valley Environmental Services LLC, "Disposition of Liquid Waste to the Interceptor", revision 8, dated August 4, 2009