

ENVIRONMENTAL COMPLIANCE SUMMARY

Compliance Program

The United States (U.S.) Department of Energy (DOE) is currently focusing on several goals at the West Valley Demonstration Project (WVDP or Project) to support completion of the requirements identified in the WVDP Act (Public Law 96-368).

Activities at the WVDP are regulated by various federal and state public, worker, and environmental protection laws. These laws are administered primarily by the U.S. Environmental Protection Agency (EPA), the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, the New York State Department of Environmental Conservation (NYSDEC), and the New York State Department of Health (NYSDOH) through programs and regulatory requirements for permitting, reporting, inspecting, self-monitoring, and auditing.

The EPA, NYSDEC, and DOE have established standards for effluents that are intended to protect human health, safety, and the environment. The DOE applies to the EPA for permits to release limited amounts of radiological constituents to the air and applies to NYSDEC for permits to release limited

amounts of nonradiological constituents to the air and water, in concentrations determined to be safe for humans and the environment. In general, the permits describe release points, specify management and reporting requirements, list discharge limits on those pollutants likely to be present, and define the sampling and analysis regimen. Releases of radiological constituents in water are subject to the requirements in DOE Orders 450.1A (Environmental Protection Program) and 5400.5 (Radiation Protection of the Public and the Environment). A summary of permits is found in Table ECS-3. (See the compliance tables at the end of this chapter.)

Compliance Status

Table ECS-1 describes the WVDP's compliance status with applicable environmental statutes, DOE directives, executive orders, and state laws and regulations applicable to the Project activities.

TABLE ECS-1
Compliance Status Summary for the WVDP in Calendar Year (CY) 2010

<i>Citation</i>	<i>Environmental Statute, DOE Directive, Executive Order, Agreement</i>	<i>WVDP Compliance Status</i>
42 United States Code (USC) §2011 et seq.	The Atomic Energy Act (AEA) of 1954 was enacted to assure the proper management of source, special nuclear, and by-product materials. The AEA and the statutes that amended it delegate the control of nuclear energy primarily to the U.S. Department of Energy (DOE), the U.S. Nuclear Regulatory Commission (NRC), and the U.S. Environmental Protection Agency (EPA).	See discussions of the West Valley Demonstration Project (WVDP) Act and DOE Orders 435.1, 450.1A, and 5400.5.
Public Law 96-368	The WVDP Act of 1980 authorized the DOE to carry out a high-level liquid nuclear waste demonstration project at the Western New York Nuclear Service Center (WNYNSC [the Center]) in West Valley, New York.	The DOE is focusing on goals that will lead to completion of responsibilities listed in the WVDP Act.

**TABLE ECS-1 (continued)
Compliance Status Summary for the WVDP in CY 2010**

Citation	Environmental Statute, DOE Directive, Executive Order, Agreement	WVDP Compliance Status
Cooperative Agreement between the DOE and the New York State Energy Research and Development Authority (NYSERDA)	The Cooperative Agreement Between the DOE and NYSERDA on the WNYNSC established a cooperative framework for implementation of the Project, effective October 1980, as amended in September 1981. In 1990, the first supplemental agreement was signed by the DOE and NYSERDA which set forth specific provisions for the preparation of a joint Environmental Impact Statement (EIS). A second supplemental agreement to the Cooperative Agreement was drafted in January 2010 and issued by DOE and NYSERDA in March 2011.	Except as delineated in specific sections of the agreement, the DOE was given sole responsibility to carry out the requirements of the WVDP Act. The DOE released a Record of Decision (ROD) for the final EIS (FEIS) for the WVDP and the WNYNSC in April 2010, and therefore the 1990 supplemental agreement is no longer applicable. The second supplemental agreement (of 2010) sets forth special provisions for the implementation and management of the Phase 1 studies as referenced in the FEIS.
WVDP Memorandum of Understanding (MOU) between the DOE and the NRC	The 1981 MOU, mandated by the WVDP Act, established procedures for review and consultation by the NRC with respect to activities conducted at the WNYNSC by the DOE. The agreement encompassed development, design, construction, operation, and decontamination and decommissioning activities associated with the Project as described in the WVDP Act. Under the WVDP Act, and to satisfy commitments made to the NRC, the DOE was required to prepare a decommissioning plan for the Project and submit it to the NRC for review.	The NRC was authorized through the WVDP Act to prescribe decommissioning criteria for the WVDP. In 2002, the NRC issued "Decommissioning Criteria for the WVDP (M-32) at the West Valley Site; Final Policy Statement" (67 Federal Register [FR] 5003). The NRC's role under the WVDP Act is to provide informal review and consultation. The "Phase 1 Decommissioning Plan (DP) for the West Valley Demonstration Project" was prepared by the DOE pursuant to its statutory obligations for decontamination and decommissioning of the WVDP under the WVDP Act. The DP was originally submitted to the NRC in December 2008, then updated and resubmitted twice in 2009 (March and December). In February 2010, the NRC issued a Technical Evaluation Report on DOE's Phase 1 DP.
DOE Order 231.1A	DOE Order 231.1A, Environment, Safety, and Health Reporting , was issued to ensure timely collection, reporting, analysis, and dissemination of information on environment, safety, and health issues as required by law or regulations or as needed to ensure that the DOE and National Nuclear Security Administration are kept fully updated about events that could adversely affect the health and safety of the public or the workers, the environment, the intended purpose of DOE facilities, or the DOE's credibility.	This WVDP Annual Site Environmental Report (ASER) is prepared and submitted annually to DOE Headquarters, regulatory agencies, and interested stakeholders in compliance with DOE Order 231.1A.

TABLE ECS-1 (continued)
Compliance Status Summary for the WVDP in CY 2010

<i>Citation</i>	<i>Environmental Statute, DOE Directive, Executive Order, Agreement</i>	<i>WVDP Compliance Status</i>
DOE Order 5400.5	DOE Order 5400.5, Radiation Protection of the Public and the Environment , established standards for DOE operations and DOE contractors to ensure that (1) operations are conducted to limit radiation exposure to members of the public pursuant to limits established in the Order, (2) potential exposures to members of the public are as low as reasonably achievable, (3) routine and nonroutine releases are monitored and dose to the public is addressed, and (4) the environment is protected from radioactive contamination to the extent practicable.	This ASER summarizes radiological estimates of dose to the public and the environment, and compares these values with release and dose standards established by this Order. In 2010, estimated doses from airborne and waterborne releases to the maximally exposed off-site individual (MEOSI) were 0.066% of the 100-millirem (mrem) standard, and about 0.021% of natural background radiation. Refer to Chapter 3, "Dose Assessment," for further discussion.
DOE Order 435.1	DOE Order 435.1, Radioactive Waste Management , was issued in 1999 to ensure that all DOE radioactive waste is managed in a manner that is protective of worker and public health and safety and the environment, and complies with applicable state, federal and local laws and regulations. Under the Order, sites that manage radioactive waste are required to develop, document, implement, and maintain a site-wide radioactive waste management program which includes actions to minimize radioactive waste generation.	The WVDP maintains program documentation separately for each waste type. Management of high-level waste was conducted in accordance with the "WVDP Waste Acceptance Manual;" Transuranic (TRU) waste was managed in accordance with the "TRU Waste Management Program Plan;" low-level radioactive waste (LLW) was managed as summarized in the "LLW Management Program Plan;" and the radioactive component of mixed LLW was managed as summarized in the "Site Treatment Plan (STP) Fiscal Year (FY) 2010 Update." Refer later in this chapter for further discussion.
DOE Order 450.1A	DOE Order 450.1A, Environmental Protection Program , June 4, 2008 replaced DOE Order 450.1. The Order required implementing an environmental management system (EMS) to conduct work at DOE sites to protect air, water, land, and other natural and cultural resources impacted by DOE operations. The DOE is required to conduct environmental effluent and surveillance monitoring to support the WVDP's integrated safety management system (ISMS), to ensure early identification of, and appropriate response to, potential adverse environmental impacts associated with operations. Sites must have a formal third party audit of the EMS, identified findings must be tracked to completion, and a "Declaration of Full Implementation" must be submitted to DOE-Headquarters every three years.	Since 1999, an EMS has been implemented via policies and procedures that provide an integrated site safety management program to accomplish work through proactive management, environmental stewardship, and integrating appropriate technologies across all Project functions. The EMS is an important part of the ISMS at the WVDP. A formal audit of the WVDP EMS was conducted in July 2010 by qualified parties outside the control of the WVDP EMS. On December 23, 2010, consistent with the requirements of DOE Order 450.1A, West Valley Environmental Services LLC (WVES) submitted to the DOE a declaration that the WVDP EMS is fully implemented. Refer to Chapter 1, "Environmental Management System," for further discussion.

**TABLE ECS-1 (continued)
Compliance Status Summary for the WVDP in CY 2010**

Citation	Environmental Statute, DOE Directive, Executive Order, Agreement	WVDP Compliance Status
Executive Orders (E.O.) 13423 and 13514	E.O. 13423, Strengthening Federal Environmental, Energy, and Transportation Management, issued in January 2007, replaced several executive orders known as the Greening the Government Executive Orders. E.O. 13514, Federal Leadership in Environmental, Energy, and Economic Performance, issued in November 2009, established goals and targets for greenhouse gas reductions. The E.O.s did not rescind previous requirements, but updated goals and baselines and added new initiatives. The E.O.s set goals in areas of energy efficiency, renewable energy, acquisition, toxics reduction, recycling, sustainable buildings, electronics stewardship, and water conservation.	Waste minimization, pollution prevention, recycling, and affirmative procurement objectives are achieved in accordance with the WVDP "Waste Minimization Pollution Prevention Awareness Plan." The "WVDP FY 2010 E.O. 13514 RCRA/EO Affirmative Procurement Report" and the "Annual Report on Pollution Prevention Progress For FY 2010" were posted to the DOE website on November 30, 2010. (See Tables ECS-6 and ECS-7.)
Title 10 Code of Federal Regulations (10 CFR) Part 830, Subpart A	10 CFR Part 830, Nuclear Safety Management , Subpart A, Quality Assurance Requirements provides the quality assurance (QA) program policies and requirements applicable to activities at the WVDP.	A QA program that provides a consistent system for collecting, assessing, and documenting data pertaining to radionuclides in the environment is implemented at the WVDP.
42 USC §4321 et seq.	The National Environmental Policy Act (NEPA) , of 1969 and as amended in 1970, established a national policy to ensure that protection of the environment is included in federal planning and decisionmaking. The President's Council on Environmental Quality established a screening system of analyses and documentation that requires each proposed action to be categorized according to the extent of its potential environmental impact.	NEPA documents are prepared at the WVDP to describe potential environmental effects associated with proposed activities. The level of documentation depends upon whether the action constitutes a major federal action significantly affecting the quality of the human environment within the meaning of NEPA. Draft documents are prepared and issued for public comment for major federal actions requiring an EIS. Based on the analyses presented, considering regulatory agency and public input, the DOE determines the preferred alternative and issues a ROD. Refer later in this chapter for further discussion of NEPA activities.

TABLE ECS-1 (continued)
Compliance Status Summary for the WVDP in CY 2010

Citation	Environmental Statute, DOE Directive, Executive Order, Agreement	WVDP Compliance Status
Title 6 of the Official Compilation of Codes, Rules, and Regulations of the State of New York (6 NYCRR) Part 617 New York State (NYS) Environmental Conservation Law (ECL)	The NY State Environmental Quality Review Act (SEQR) of January 1, 1996, enacted in September 1976 and as amended on June 26, 2000, requires adequate environmental review and assessment of whether a proposed action has the potential to have a significant environmental impact, prior to a decision regarding the action. Where a project involves both NYS and federal approvals, it is preferred to coordinate the SEQRA and NEPA processes.	The SEQR process is an action-forcing statute that requires state agencies to incorporate environmental considerations directly into their decisionmaking, and where necessary, to modify that action to mitigate adverse environmental effects. Coordinated efforts were made at the WVDP to effectively utilize information from the federal EIS process to make the required SEQR Findings Statement for the WVDP and WNYNSC, which was issued in May 2010.
42 USC §6901 et seq., and NYS ECL	The Resource Conservation and Recovery Act (RCRA) of 1976 and the NYS Solid Waste Disposal Act (NYS ECL Article 27 [Title 9]) govern the generation, storage, handling, and disposal of hazardous wastes and closure of systems that handle these wastes. RCRA was enacted to ensure that hazardous wastes are managed in a way that protects human health, safety, and the environment.	Generation, storage, handling, treatment, and disposal of hazardous waste, and closure of systems that handle hazardous waste at the WVDP, are conducted in accordance with the RCRA interim status regulations. The New York State Department of Environmental Conservation (NYSDEC) performed a hazardous waste compliance inspection of the WVDP facilities on March 31, 2010 and reported no violations of NYS hazardous waste regulations. The EPA performed a RCRA hazardous waste treatment, storage, and disposal facility inspection on August 11, 2010, and reported no negative findings. A detailed discussion of RCRA activities is presented later in this chapter.
Amendment to 42 USC §6961	The Federal Facilities Compliance Act (FFCA) of 1992 (an amendment to RCRA) requires DOE facilities to prepare a site treatment plan (STP) for treating mixed waste inventories to meet land disposal restrictions and to update the plan (i.e., annually) to account for changes in mixed waste inventories, capacities, and treatment technologies. The DOE entered into a Consent Order with NYSDEC for the WVDP in 1996.	The WVDP STP update for fiscal year (FY) 2009, revised in February 2010, consists of two volumes, the background volume and the plan volume. The FFCA requires completing milestones identified in the plan volume. The FY 2009 plan identified three proposed milestones for waste streams managed under the WVDP STP, all of which were completed by September 30, 2010.

TABLE ECS-1 (continued)
Compliance Status Summary for the WVDP in CY 2010

Citation	Environmental Statute, DOE Directive, Executive Order, Agreement	WVDP Compliance Status
Docket No. II RCRA 3008(h) 92-0202	The DOE and NYSERDA entered into the RCRA §3008(h) Administrative Order on Consent (the Consent Order) with the EPA (lead agency) and NYSDEC in March 1992. The state and federal RCRA regulations authorize the agencies to issue orders requiring RCRA corrective actions associated with the potential releases of hazardous waste and/or hazardous constituents from solid waste management units at the WNYNSC.	Written procedures and site activities are compliant with the Consent Order. In accordance with the Consent Order, the DOE submits quarterly reports to the EPA and NYSDEC that summarize all RCRA §3008(h) activities and progress conducted at the WVDP for the representative quarter. In 2010, the WVDP transmitted five corrective measures studies for six SWMUs under the Consent Order. A detailed discussion of calendar year (CY) 2010 activities is presented later in this chapter.
RCRA 3016 Statute	The RCRA 3016 Statute applies to all Federal hazardous waste facilities currently owned or operated by the government. It requires that facility hazardous waste information be submitted to the EPA and authorized states.	WVDP facility hazardous waste activities are reported biennially to the EPA and NYSDEC. The RCRA 3016 Biennial Report for 2010 was submitted on March 1, 2010.
42 USC §7401 et seq.; 40 CFR 61, Subpart H; and 6 NYCRR Chapter 3, Air Resources	The Clean Air Act of 1970 and the NYS ECL regulate the release of air pollutants through permits and air quality limits. Emissions of radionuclides are regulated by the EPA via the National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations. Nonradiological emissions are permitted under 6 NYCRR Part 201-4 (Minor Facility Registrations).	The DOE maintained six NESHAP permits for radiological emissions and one Air Facility Registration Certificate for nonradiological emissions at the WVDP, during 2010. The annual NESHAP Report summarizing radiological emissions and estimated dose was submitted to the EPA. Estimated dose to the MEOSI from radiological air emissions 2010 was 0.017% of the 10-mrem Subpart H standard. Refer to Chapter 3, "Dose Assessment," for discussion. In January, 2011, DOE performed a review of the WVDP NESHAP program. Although four findings were identified, the overall adequacy and implementation of the WVDP NESHAP program is considered effective. (See "EMS Audits and Other Audits and Assessments" section in Chapter 1.) In CY 2010, two utility steam boilers were responsible for nonradiological emissions of nitrogen and sulfur oxides at 0.42% of the 49.5-ton capping limit for maintaining the minor facility registration certificate.

TABLE ECS-1 (continued)
Compliance Status Summary for the WVDP in CY 2010

Citation	Environmental Statute, DOE Directive, Executive Order, Agreement	WVDP Compliance Status
33 USC §1251 et seq. and NYS ECL	The Federal Water Pollution Control Act of 1977 (Clean Water Act [CWA]) and NYS ECL (Article 17 [Title 8]) seek to improve surface water quality by establishing standards and a system of permits. Wastewater and storm water discharges are regulated by NYSDEC through the State Pollutant Discharge Elimination System (SPDES) permit. Discharges of fill material are regulated through permits issued by the U.S. Army Corps of Engineers (USACE) and water quality certifications issued by NYSDEC.	Monthly SPDES Discharge Monitoring Reports are submitted to NYSDEC. Wastewater was monitored for chemical constituents during lagoon discharges, and the SPDES-permitted storm water monitoring was completed during 2010 by sampling the eight drainage basins during qualifying storm events. During 2010, no SPDES permit limit exceedances were noted. A modified SPDES permit became effective on July 1, 2011. Refer to "SPDES Permit" later in this chapter, and to "SPDES Permit Required Monitoring" in Chapter 2 for further discussion.
NYS ECL Article 17, Titles 7 and 8, and ECL Article 70	NYS ECL Article 17 (Titles 7 and 8), and ECL Article 70 regulate storm water discharges related to construction activity. Authorization was required from the NYSDEC, Division of Water, to utilize the general permit (GP-0-10-001) for management of storm water associated with construction activities during the construction and installation of the north plateau full-scale permeable treatment wall (PTW).	WVES submitted to NYSDEC a Notice of Intent and a Storm Water Pollution Prevention Plan (SWPPP) for storm water discharges associated with construction activities for the north plateau PTW preconstruction and construction activities at the WVDP. All requirements of the SWPPP were met by December 2010, and the notice of termination was submitted to NYSDEC in August 2011, following ground disturbance stabilization.
NYS Navigation Law and NYS ECL	NYS ECL Article 17 (Titles 10 and 17), 6 NYCRR 612–614 and Parts 595–599, and 6 NYCRR Subpart 360-14 regulate design, operation, inspection, maintenance, and closure of aboveground and underground petroleum bulk storage (PBS) and chemical bulk storage (CBS) tanks. Also regulates spill reporting and cleanup. Under terms of a 1996 agreement, amended in 2005, the DOE is not required to report a spill of petroleum product onto an impervious surface if the spill is less than 5 gallons and is cleaned up within two hours of discovery.	The last CBS tank at the WVDP was closed under these regulations in 2006. There remain nine registered PBS tanks (eight aboveground and one underground) that are periodically inspected and maintained. NYSDEC performed an inspection of PBS tanks on November 17, 2010, noting no issues, violations, or negative observations. Spills are reported and cleaned up in accordance with written policies and procedures. There were no reportable spills during the first or second quarters of 2010. There was one spill of petroleum product (approximately 10 gallons) during the third quarter of 2010 that required immediate notification to NYSDEC. The spill was contained and cleaned up within two hours. There were also three additional smaller spills during the third quarter and five during the fourth quarter of CY 2010. The smaller quantities of less than 5 gallons did not require immediate notification to NYSDEC, but were reported in quarterly reports.

TABLE ECS-1 (continued)
Compliance Status Summary for the WVDP in CY 2010

Citation	Environmental Statute, DOE Directive, Executive Order, Agreement	WVDP Compliance Status
E.O. 11990	E.O. 11990, Protection of Wetlands , directed federal agencies to avoid, where possible, impacts (e.g., destruction, modification, or new construction) that would adversely effect wetlands wherever there is a practical alternative. Activities in wetlands are regulated by the U.S. Army Corps of Engineers and NYSDEC permits. The wetlands on the WVDP are subject to regulation under Section 404 of the CWA and NYS ECL Articles 24 and 36.	Wetlands are periodically identified and delineated on the WVDP. In 2006, the USACE confirmed that 34.09 acres of wetlands, subject to federal jurisdiction, exist within and adjacent to the WVDP. A wetland complex of 17.3 acres is subject to NYSDEC jurisdiction. A re-delineation identified an additional wetland of 0.09 acres, adjacent to the live-fire range, that is hydrologically connected to the NYSDEC jurisdictional wetlands. During 2010, there were no activities performed that adversely impacted the delineated wetlands.
42 USC §9601 et seq.	The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA , including the Superfund Amendments and Reauthorization Act of 1986 [SARA]) provided the regulatory framework for remediation of releases of hazardous substances and remediation of inactive hazardous waste disposal sites.	Based on the results of a Preliminary Assessment Report prepared for the DOE, it was determined that the WVDP did not qualify for listing on the national priorities list. Therefore, no further investigation pursuant to CERCLA was warranted. However, if a hazardous substance spill exceeds a reportable quantity, CERCLA reporting requirements may be triggered.
42 USC §11001 et seq.	The Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986 (also known as SARA Title III) was designed to create a working partnership between industry, business, state and local government, and emergency response representatives to help local communities protect public health, safety, and the environment from chemical hazards.	Chemical inventories for the WVDP are reported quarterly under EPCRA as appropriate. There were no releases of hazardous substances in 2010 that triggered release notifications under EPCRA. A new 13,000-gallon liquid nitrogen tank was installed in 2009 to support the nitrocision effort. Zeolite, used in construction of the PTW, was held on site in volumes greater than threshold quantities. Refer to Tables ECS-9 and ECS-10.
42 USC §300f et seq.	The Safe Drinking Water Act of 1974 requires that each federal agency operating or maintaining a public water system must comply with all federal, state, and local requirements regarding safe drinking water. Compliance in New York State is verified by oversight of the New York State Department of Health (NYSDOH), through NYS Public Health law, and the Cattaraugus County Health Department (CCHD).	The WVDP operates a non-transient, non-community public drinking water system serving a population of less than 500. All CY 2010 results from analyses of drinking water were reported within limits to the CCHD. The CCHD performed an inspection of the treatment and distribution system on March 11, 2010, during which backflow prevention device testing documentation was verified. No issues or concerns were identified.

TABLE ECS-1 (continued)
Compliance Status Summary for the WVDP in CY 2010

Citation	Environmental Statute, DOE Directive, Executive Order, Agreement	WVDP Compliance Status
10 CFR Part 851	10 CFR 851 " Worker Safety and Health Program " of 2006 requires DOE contractors to provide workers with a safe and healthful workplace. To accomplish this objective, the rule established program requirements specific to management responsibilities, worker rights, hazard identification and prevention, safety health standards, required training, recordkeeping, and reporting.	Procedures and programs are revised to maintain requirements that comply with 10 CFR 851. Any proposed modification that may invalidate a portion of the worker health and safety program at the WVDP must be approved by DOE-WVDP. The plan was reviewed by WVES in September 2010, and it was determined that no changes to the current plan were necessary.
10 CFR Part 835	10 CFR Part 835, Occupational Radiation Protection , November 2006 as amended June 2007, established radiation protection standards, limits, and program requirements for protecting individuals from ionizing radiation resulting from the conduct of DOE activities.	In July 2008, the "WVES Documented Radiation Protection Program and Implementation Plan for 10 CFR Part 835, as amended June 2007" was issued, and full compliance with 10 CFR 835 was achieved by January 1, 2011.
15 USC §2601 et seq., and 12 NYCRR Part 56	The Toxic Substances Control Act of 1976 regulates the manufacture, processing, and distribution of chemicals, including asbestos-containing material (ACM) and polychlorinated biphenyls (PCBs). Effective September 2006, the New York State Department of Labor (NYS DOL) significantly revised the asbestos regulations, cited in 12 NYCRR Part 56. As a result, operating procedures were revised, special training for asbestos workers was conducted, and the WVDP applied for and was granted site-specific variances.	During 2010, ACM activities were managed in accordance with the site "Asbestos Management Plan" and activities were completed by personnel certified by NYSDOL. On March 10, 2010, the NYSDOL conducted an unannounced inspection of asbestos-handling activities at the WVDP. No violations, observations, or findings were identified. Refer to Table ECS-5 for a summary of asbestos waste management activities. Management of PCBs was done in accordance with the WVDP "PCB and PCB-Contaminated Material Management Plan." The WVDP operators maintain an annual document log that details PCB use and changes in storage or disposal status.
7 USC §136 et seq.	The Federal Insecticide, Fungicide, and Rodenticide Act of 1996 and NYS ECL provide for EPA and NYSDEC control of pesticide distribution, sale, and use.	Chemical pesticides are applied at the WVDP only after alternative methods are evaluated by trained and NYSDEC-certified professionals and determined to be unfeasible. In 2010, 108 lbs of a germicidal detergent was used to clean respirators. The cooling tower is no longer in use, therefore biocide use for water treatment is no longer necessary.
NYS ECL, Article 15, Title 5, et seq.	NYS ECL , Article 15, Title 5, Protection of Water regulates the safety of dams and other surface water impounding structures, including construction, inspection, operation, maintenance, and modification of these structures. Revised dam safety regulations became effective on August 19, 2009. The dams maintained by the WVDP, on the WNYNSC property, are classified as Class A - low-hazard dams.	Two surface water impounding dam structures are located on the WNYNSC: NYS Atomic Development Dam #1 (DEC Dam ID #019-3149) and NYS Atomic Development Dam #2 (DEC Dam ID #019-3150). Inspections and maintenance are routinely performed and documented. Repairs or construction activities related to the dams may require permits from NYSDEC. Refer to "Safety Inspections of the WNYNSC Dams" discussion later in this chapter.

TABLE ECS-1 (continued)
Compliance Status Summary for the WVDP in CY 2010

Citation	Environmental Statute, DOE Directive, Executive Order, Agreement	WVDP Compliance Status
NYS ECL Article 15, Title 33, Part 675	NYS ECL , Article 15, Title 33 Water Withdrawal Reporting requires that any person who withdraws or is operating any system or method of withdrawal that has a capacity to withdraw more than 100,000 gallons of groundwater or surface water per day shall file an annual report with NYSDEC. The legislation was enacted to gain more complete information for managing the state's water resources.	WVES operates a non-transient, non-community public water supply system for drinking water and operational purposes at the WVDP. In compliance with the legislation, the "2010 WVDP Water Withdrawal Annual Report" was submitted to NYSDEC on February 3, 2011. The WVDP withdrew an average of 89,000 gallons per day. An updated Water Withdrawal Registration Certificate (NYGL08701) was issued to the DOE by NYSDEC on August 24, 2011.
NYS Public Health Law	Public Health Law , Article 5 (Laboratories), Section 502 (Environmental Laboratories, Examinations, and Certificates of Approval)	The WVDP Environmental Laboratory (the URS Corporation Laboratory) is certified by NYSDOH for certain radiological and nonradiological constituents in potable and nonpotable water.
49 CFR Part 172, and 6 NYCRR Part 364.9	6 NYCRR Part 364.9 regulates handling and storage of potentially infectious regulated medical waste. 49 CFR Part 172, Subpart H regulates transportation safety and disposal of regulated medical waste at a licensed facility.	The on-site health services office is registered with NYS as a "Small Quantity Generator" of regulated medical waste. Medical services generate potentially infectious medical wastes that are securely stored in approved biohazard containers and are handled and controlled by authorized personnel.
16 USC §703 et seq., and 6 NYCRR Part 175	The Migratory Bird Treaty Act of 1918 implemented various treaties and conventions between the U.S. and foreign countries for the protection of migratory birds. Under the Act, taking, killing, or possessing migratory birds is unlawful. (See also 6 NYCRR Part 175, Special Licenses and Permits - Definitions and Uniform Procedures.)	The DOE maintains, and complies with, a NYSDEC Division of Fish and Wildlife Bird Depredation License and a U.S. Fish and Wildlife Bird Depredation Permit for the WVDP. (See Table ECS-12.)
16 USC §1531 et seq., and 6 NYCRR Part 182	The Endangered Species Act of 1973 provided for the conservation of endangered and threatened species of fish, wildlife, and plants. (See also 6 NYCRR Part 182, Endangered and Threatened Species of Fish and Wildlife; Species of Special Concern.)	Several ecological surveys of the WNYNSC premises have been conducted. Except for "occasional transient individuals," no plant or animal species protected under the Endangered Species Act are known to reside at the Center.
16 USC §470	The National Historic Preservation Act of 1966 established a program for the preservation of historic properties throughout the nation.	Surveys have been conducted of the WNYNSC for historic and archaeological sites. Surveys revealed American Indian and historic homestead artifacts, consistent with the area.

TABLE ECS-1 (concluded)
Compliance Status Summary for the WVDP in CY 2010

<i>Citation</i>	<i>Environmental Statute, DOE Directive, Executive Order, Agreement</i>	<i>WVDP Compliance Status</i>
E.O. 11988	E.O. 11988, Floodplain Management , was issued to avoid adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative.	No activities were performed during 2010 at the WVDP that would develop or be adversely impacted by the 100-year floodplain within the premises.
40 CFR §144.26 and 144.24	The EPA regulates injection of tracer solutions into groundwater monitoring wells, in accordance with the Underground Injection Control Program Regulation . On November 18, 2010, the EPA authorized the injection of sodium bromide tracer solution into select wells within the north plateau.	A suite of wells in the north plateau PTW were used to inject sodium bromide tracer solution to support activities for the remediation of the strontium-90 plume by estimating local groundwater flow velocities. The tracer tests were performed in February and March 2011.
Stipulation Pursuant to NYS ECL Section 17-0303, and Section 176 of the Navigation Law	In accordance with Stipulation No. R9-4756-99-03 , dated March 1999, the DOE agreed to install a soil bioventing system to remediate petroleum contaminated soils in the warehouse underground tank site (NYSDEC Spill number 9708617). The remediation plan was to construct a bioventing system, operate it for two calendar years, assess performance, and report to NYSDEC.	The system stimulated natural in-situ biodegradation of petroleum hydrocarbons in the soil by providing abundant oxygen to existing microorganisms. After reviewing soil and water sampling, analyses, and evaluations, NYSDEC determined that no further remediation was required. A determination regarding the potential need for future actions will be made consistent with Phase 2 decisionmaking under the NEPA process.
6 NYCRR 360	NYS ECL Solid Waste Management Facility Regulations define requirements for closure of nonradioactive solid waste disposal facilities in a manner that protects the environment.	In 1986, an engineering closure plan was submitted to and approved by NYSDEC for the construction and demolition debris landfill (CDDL). The closure was performed in accordance with landfill closure regulatory requirements specified in the approved closure plan. The plan also requires post-closure perpetual maintenance and annual reporting in this ASER. The CDDL cover was inspected on April 24 and November 23, 2010 for integrity and bare areas and the culverts were inspected for erosion and silting. All areas were found to be in good condition.

2010 Accomplishments and Highlights at the WVDP

West Valley Environmental Services LLC (WVES) operated the WVDP safely and in a manner that continued to be protective of the public, its workers, and the environment throughout 2010. The projects were carried out in accordance with applicable permits and licenses. The following accomplishments contributed to major progress in support of completion of the requirements identified in the WVDP Act.

Record of Decision. In April 2010, DOE released a Record of Decision (ROD) for the Final Environmental Impact Statement (FEIS) for the WVDP and the Western New York Nuclear Service Center (WNYNSC) (DOE/EIS-0226), allowing for the continued decommissioning and cleanup efforts at the site using a two-part phased decisionmaking process. The New York State Energy Research and Development Authority (NYSERDA) published its corresponding decision under the State Environmental Quality Review Act (SEQR) in a statement of findings in May 2010. It was determined that in Phase 1, the Main Plant Process Building (MPPB) including underlying contaminated soils, the vitrification facility, the remote-handled waste facility, wastewater treatment lagoons, and a number of other facilities will be removed. Facility disposition actions identified under Phase 1 Site Decommissioning are scheduled to be carried out under the new contract that was awarded to CH2MHill • B&W West Valley, LLC on June 29, 2011. On March 14, 2011, the DOE and NYSERDA entered into a second supplemental agreement to the cooperative agreement which set forth special provisions for the identification, implementation, and management of the Phase I studies that may provide data for consideration in Phase 2 decisionmaking.

The Phase 2 decommissioning decision, which will address the remaining facilities, will be made within 10 years of the EIS ROD. In order to facilitate inter-agency consensus while Phase 1 cleanup activities are progressing, additional studies will be conducted to possibly reduce technical uncertainties related to the decision on final decommissioning and long-term management of the balance of WNYNSC. In particular, these studies may address uncertainties associated with the long-term performance models, the viability and cost of exhuming buried waste and tanks, the availability of waste disposal sites, and technologies for in-place containment. The complete FEIS and the ROD can be viewed online at the DOE-WVDP website at www.wv.doe.gov.

DOE/NYSERDA Consent Decree. The DOE and NYSERDA reached an agreement on the cost sharing for cleanup of the WVDP and the WNYNSC by signing a Consent Decree on August 17, 2010 in the U.S. District Court, Western District of New York. While the Consent Decree defines the cost-sharing agreement, it does not define what the cleanup will be or the end state of the WVDP and the WNYNSC.

Radioactive Waste Processing. During the last three years, WVES worked an ambitious plan to prepare for transport and eventual off-site disposal of all of the legacy transuranic (TRU) radioactive waste stored at the site (approximately 80,000 ft³ [1,476 containers]). Thus far, utilizing several waste processing and characterization methodologies, the amount of legacy TRU waste on site has been reduced by approximately 75%. Through non-intrusive techniques, 40% of the waste was reclassified as low-level radioactive waste (LLW). Targeted invasive techniques were used to segregate and remove higher activity materials, allowing the remainder to be reclassified as LLW. TRU waste reduction is critical due to the increased hazards associated with handling TRU waste, more stringent disposal requirements (and subsequent cost increases), and the lack of a current pathway for disposal. TRU waste will be safely stored at the WVDP until a disposal facility is available.

Stored legacy waste was processed for disposal in a number of waste processing facilities at the WVDP. A number of the radioactive waste containers required remote or robotic processing due to high activity. Upgrades were made to the remote-handled waste processing facilities at the WVDP to increase the rate of waste processing. Upgrades included deploying a filter crusher that processed 38 waste boxes containing high-activity radioactive filters.

WVES also minimized waste generation by deploying the robotically controlled Nitrocision® technology using a high-pressure liquid nitrogen system to decontaminate larger pieces. The technology has been highly successful in removing high-activity fixed contamination from cell surfaces and large pieces of equipment.

Some of the waste processing activities were accelerated using American Recovery and Reinvestment Funding (ARRA).

In March 2011, WVES received Honorable Mention for an Environmental Sustainability (E-Star) Award from DOE-Headquarters for these radioactive waste processing and reduction techniques. Many of the tools and

techniques used for the processing of TRU waste were developed specifically for individual waste streams and often utilized specialized tooling. WVES continued to assess requirements and opportunities to increase efficiencies in waste processing. See Table ECS-6, "Pollution Prevention Progress for Fiscal Year 2010."

Deactivation and Decontamination of the MPPB. Dismantlement and decontamination activities continued in radioactive cells in the MPPB: extraction cell 1 (XC-1), the process mechanical cell (PMC), and the general purpose cell (GPC). All work was done remotely in these three cells because of elevated radiological contamination and limited accessibility. Contaminated coating on the walls and floors of the PMC and the GPC was removed using the Nitrocision® technology. In XC-1, which still contains original process equipment used during commercial nuclear fuel reprocessing, a robotic arm was used to remove the piping. As of early 2011, three large vessels from XC-1 have been remotely removed and packaged in shielded containers.

Work was initiated in the off-gas cell to prepare for equipment removal and decontamination, including making the first personnel entry into that area since 1972. Activities, such as grouting and leveling the floor and adding a shielding wall, were conducted to reduce the radiological dose in the cell, which contains original fuel reprocessing equipment.

Asbestos-removal activities were also completed in a number of aisles in the MPPB. Asbestos insulation on piping was very common during plant construction. Successful decontamination has been an important step toward preparing the MPPB for demolition. Some of the decontamination activities were accelerated using ARRA funding.

North Plateau Full-Scale Permeable Treatment Wall (PTW). A plume of groundwater contaminated with strontium-90, migrating to the north-northeast, has been monitored on the north plateau for nearly two decades. The contamination source was determined to have been from a leak in piping, during historical nuclear fuel reprocessing operations, that entered the ground below the southwest corner of the MPPB. During 2010, an 860-foot-long zeolite-filled PTW was installed along the existing roadway south of the construction and demolition debris landfill. The PTW allows groundwater to pass through the wall, while trapping and holding the radioactive strontium-90 in place. The zeolite, chosen for the PTW, is a natural mineral with a porous structure that can trap positively charged ions, such as strontium. Subsequently,

66 groundwater monitoring wells were installed to monitor the wall's performance. The work for this project was completed using ARRA funding.

Waste Tank Farm (WTF) Tank and Vault Drying System (T&VDS). With an ultimate goal of preventing the underground steel tanks from corroding under ambient tank and vault conditions, the WVDP installed a T&VDS in the underground WTF in 2010. The T&VDS was designed to reduce the volume of liquids in the tanks and the harmful effects of corrosion on the underground waste tanks situated within concrete vaults that were originally installed in the 1960s. Corroded pipe was replaced with stainless-steel ventilation lines, a rotary dryer was installed, and the new T&VDS was brought on line before the end of December 2010. The system has started to dry the remaining liquid in the tanks and vaults. Once the tanks and vaults dry, the system will maintain a low (about 30%) relative humidity, thereby reducing the harmful effects of corrosion on the underground tanks. The work for this project was completed under ARRA funding.

Safety Success. The radiological and hazardous work environment at the WVDP warrants strict adherence to safety procedures. During 2010, the WVDP employees were recognized for numerous safety milestones that occurred:

- The workforce achieved 3.5 million consecutive work hours without a lost time work injury, which translated to 1,347 days without a lost time work injury;
- The site was requalified as a STAR site under the DOE's voluntary protection program for its safety performance; and
- The site was awarded the 2009 URS Safe Project of the Year.

These CY 2010 achievements continued to rank the WVDP among the safest of the DOE's Office of Environmental Management programs.

Phase 1 Decommissioning Contract. The DOE released the request for proposal for the Phase 1 facility disposition contract for the next phase of work at the WVDP. Services to be provided in the contract include:

- Project management and support;
- Site operations, maintenance, and utilities;
- High-level radioactive waste (HLW) canister relocation;

- Facility disposition, including demolition of the MPPB;
- Waste tank farm management;
- U.S. Nuclear Regulatory Commission (NRC)-Licensed Disposal Area (NDA) management;
- Waste management and nuclear materials disposition;
- Environmental monitoring, safeguards, and security.

The contract was awarded to CH2MHill • B&W West Valley, LLC of Englewood, Colorado on June 29, 2011.

National Environmental Policy Act (NEPA)

NEPA requires the DOE to consider the overall environmental effects of its proposed actions. Draft documents are prepared that describe potential environmental effects associated with proposed Project activities. The level of evaluation and documentation depends upon whether the action constitutes a major federal action significantly affecting the quality of the human environment within the meaning of NEPA. The categories of documentation include categorical exclusions (CXs), environmental assessments (EAs) and EISs.

CXs document actions that, by their nature, will not have a significant effect on the environment. EAs are used to evaluate the extent to which a proposed action, not categorically excluded, will affect the environment.

Based on the analyses presented in an EA and considering regulatory agency, stakeholder, and public comment, the DOE may determine that the proposed action is not a major federal action significantly affecting the quality of the human environment within the meaning of NEPA. As a result, the DOE may issue a notice indicating the finding of no significant impact and therefore would not be required to prepare an EIS.

If a proposed action has the potential for significant environmental effects, an EIS would be prepared that describes proposed alternatives to an action and explains the effects of each. Based on the analyses presented, and considering regulatory agency and public input, the DOE will determine the preferred alternative and issue a ROD regarding the action.

Since the Project began, a number of proposed site activities have warranted environmental impact evaluations. A summary of the significant NEPA document history is presented in Table ECS-2. Decisions

resulting from the final EISs and associated RODs and EAs are required before starting new waste management and remediation activities at the Project.

FEIS Issued. In December 2008, the DOE issued a notice of public availability in the Federal Register for the “Revised Draft EIS for Decommissioning and/or Long-Term Stewardship at the WVDP and the WNYNSC” (DOE/EIS-0226-D). The DOE and the NYSERDA were the lead agencies on this EIS, and the EPA, NRC, and NYSDEC were cooperating agencies. NYSDOH was an involved agency under SEQR. The draft was distributed for a six-month public review process, plus a three-month extension.

In January 2010, the DOE and NYSERDA issued the FEIS for Decommissioning and/or Long-Term Stewardship at the WVDP and the WNYNSC (DOE/EIS-0226). On April 14, 2010, the DOE issued the ROD for the FEIS, selecting the phased decisionmaking alternative. In Phase 1, the DOE will decommission the MPPB, the vitrification facility, remote-handled waste facility, the wastewater treatment lagoons, and a number of other facilities. No decommissioning actions will be taken on the underground HLW tanks or the NDA, and the HLW canisters will be safely stored on site. NYSERDA will manage the State-licensed disposal area.

NYSERDA issued a SEQR Findings Statement for the phased decisionmaking preferred alternative on May 12, 2010, as required in accordance with Title 6 of the Official Compilation of Codes, Rules, and Regulations of the State of New York (6 NYCRR) Part 617.12(b).

While decommissioning activities are underway in Phase 1, the DOE and NYSERDA will undertake a number of studies to help determine the best technical approach to complete decommissioning of the remaining facilities. Phase 1 is expected to take up to 10 years, during which time the DOE will manage the site’s remaining facilities in a safe manner. The Phase 2 decision will be made within 10 years of the EIS ROD.

Phase 1 Decommissioning Plan for the WVDP. On December 5, 2008, the DOE issued the proposed “Phase 1 Decommissioning Plan (DP) for the West Valley Demonstration Project, West Valley, NY” (73 Federal Register 74162) and transmitted the DP to the NRC for review. The plan was prepared pursuant to statutory obligations required under the WVDP Act and to satisfy commitments made to the NRC in 1981 under the DOE/NRC memorandum of understanding, and again in 2003. The DP addressed Phase 1 of the two phases of the proposed WVDP decommissioning ap-

**TABLE ECS-2
National Environmental Policy Act (NEPA) Documents Affecting DOE Activities at the WVDP**

<i>Year</i>	<i>Action</i>	<i>Outcome</i>
1982	The final Environmental Impact Statement (EIS) and associated Record of Decision (ROD) were issued outlining the actions the United States Department of Energy (DOE) proposed for solidification of the liquid high-level radioactive waste (HLW) contained in the underground tanks (DOE-EIS-0081).	The initial period of West Valley Demonstration Project (WVDP) Act work activities, completed in September 2002, removed the HLW from the tanks and immobilized it into borosilicate glass through vitrification. The glass canisters remain on site in storage.
1988	The DOE and the New York State Energy Research and Development Authority (NYSERDA) published a Notice of Intent (NOI) to prepare the EIS for Completion of the WVDP and Closure or Long-Term Management of the Facilities at the Western New York Nuclear Service Center (WNYNSC [or Center]).	The draft EIS was issued in 1996.
1996	The DOE and NYSERDA issued the "Draft EIS for the Completion of the WVDP and Closure or Long-Term Management of the Facilities at the WNYNSC" (DOE/EIS-0226-D).	The draft EIS was issued without a preferred alternative for a six-month review and comment period. After issuance of the draft EIS, and despite long negotiations, the DOE and NYSERDA were unable to reach an agreement on the future course of action for closure at the Center (see Government Accounting Office, 2001).
1997	Following issuance of the draft 1996 EIS, NYSERDA and the DOE formed a stakeholder advisory group (the West Valley Citizen Task Force [CTF]) to provide additional input to the public comment process required by the National Environmental Policy Act (NEPA).	The CTF mission is to provide stakeholder input to decisionmaking for development of a closure option for the WVDP and the WNYNSC.
1997	The DOE Headquarters issued the "Final Waste Management Programmatic EIS," (WM PEIS [DOE/EIS-0200F]) to evaluate nationwide management and siting alternatives for treatment, storage, and disposal of five types of radioactive and hazardous waste.	The WM PEIS (DOE/EIS-0200F) was issued with the intent to issue a separate ROD for each type of waste generated, stored, or buried over the next 20 years at 54 sites in the DOE complex.
1999	The DOE issued a ROD for nationwide management of HLW, Vol. 64, Federal Register (FR), p. 46661 (64 FR 46661)	The ROD specified that WVDP-vitrified HLW will remain in storage on site until it is accepted at a geologic repository.
2000	The DOE issued a ROD for nationwide management of low-level radioactive waste (LLW) and mixed LLW (65 FR 10061).	The Hanford site in Washington State and the Nevada Test Site were designated as national DOE disposal sites for LLW and mixed LLW.
2001	The DOE published an NOI (66 FR 16447) formally announcing its rescoping plan and preparation of the waste management EIS for the WVDP. The DOE published an Advance NOI (66 FR 56090), announcing in advance, its intention to prepare an EIS for Decommissioning and/or Long-Term Stewardship at the WVDP and the WNYNSC.	The rescoping plan split the scope of the 1996 WVDP Draft EIS into two phases: (1) near-term waste management decisionmaking and (2) final decommissioning and/or long-term stewardship decisionmaking. The advanced NOI informed interested parties of a pending EIS and provided opportunity for public comments early in the process.

TABLE ECS-2 (concluded)
National Environmental Policy Act (NEPA) Documents Affecting DOE Activities at the WVDP

<i>Year</i>	<i>Action</i>	<i>Outcome</i>
2003	The DOE issued a notice of availability of the "WVDP Draft Waste Management EIS" (68 FR 26587).	The draft EIS presented alternatives for near-term management of WVDP LLW, mixed LLW, transuranic (TRU) waste, and HLW.
2003	The DOE, in cooperation with NYSERDA, issued an NOI (68 FR 12044) to issue an EIS for "Decommissioning and/or Long-Term Stewardship at the WVDP and the WNYNSC."	As a result of comments during the scoping process and the complexity of issues relating to long-term agency responsibility, this EIS was delayed (DOE-EIS-0226-R).
2005	The DOE issued a ROD, based on alternative A, for the "WVDP Waste Management EIS (WVDP WM EIS-0337)" (70 FR 35073).	The HLW canisters will remain in storage on site until transfer to a geologic repository, the decision on TRU waste would be deferred until certification is obtained from the Waste Isolation Pilot Plant in Carlsbad, New Mexico, and LLW and mixed LLW would be shipped off site for disposal at commercial or DOE sites.
2005	On August 26, 2005, the Coalition on West Valley Nuclear Wastes (the Coalition) filed a complaint in the U.S. District Court, Western District of New York, against the DOE regarding the NEPA process at the WVDP. The Coalition contended that the DOE's rescoping plan to split the 1996 draft WVDP EIS violated NEPA and the Stipulation of Compromise. The Coalition also sought a declaration that the DOE is not empowered to reclassify waste at the WVDP using the "waste incidental to reprocessing" determination.	On September, 28, 2007, the U.S. District Court, Western District of New York ruled to dismiss the complaint in its entirety. Refer to Case 1:05-cv-00614-JTC, Document 41, filed September 28, 2007 for the ruling.
2006	An Environmental Assessment (EA) (DOE/EA-1552) evaluated the proposed decontamination, demolition, and removal of select facilities at the site. A finding of no significant impact (FONSI) was issued.	The EA, with the associated FONSI, cleared the way for removal of 36 facilities that were (or in the next four years would be) no longer required to support activities at the WVDP.
2007	DOE issued an NOI to prepare an EIS for the disposal of Greater-Than-Class-C (GTCC) LLW (72 FR 40135). In March 2011, the DOE issued the draft EIS for the disposal of GTCC LLW and GTCC-like waste.	Nine scoping meetings were held throughout 2007; the draft was never issued. On February 25, 2011, a notice of availability for the Draft GTCC EIS was issued with the 120-day public comment period ending on June 27, 2011.
2008	The DOE issued a notice of availability for the revised "Draft Environmental Impact Statement for Decommissioning and/or Long-Term Stewardship at the WVDP and WNYNSC (DOE/EIS-0226-D [Revised])" (73 FR 74160).	The draft EIS evaluated the range of reasonable alternatives for decommissioning and/or long-term stewardship of the facilities at the Center. This EIS is a revised draft of the 1996 Cleanup and Closure Draft EIS. The draft EIS was distributed December 5, 2008, for a six-month public review period, which was extended through September 8, 2009.
2010	In January 2010, the DOE issued the "Final EIS (FEIS) for Decommissioning and/or Long-Term Stewardship at the WVDP and WNYNSC (DOE/EIS-0226 [Revised])". On April 14, 2010, the DOE issued the ROD for the FEIS, selecting the phased decisionmaking alternative as the preferred alternative. On May 12, 2010, NYSERDA issued a New York State Environmental Quality Review Act Findings Statement selecting the phased decisionmaking alternative as the preferred alternative.	In phase 1 of the phased decisionmaking preferred alternative, the DOE will decommission the main plant process building, the vitrification facility, remote-handled waste facility, the wastewater treatment lagoons, and a number of other facilities. Concurrently, sample data and information will be collected and analyzed to support a more-informed Phase 2 decision. The Phase 2 decision will be made within 10 years of the EIS ROD.

proach based on the phased decisionmaking alternative selected in the ROD and Findings Statement for the WVDP and the WNYNSC.

On September 16, 2009, the NRC held an open house at West Valley, New York to provide the status of NRC's review of the Phase 1 DP to interested members of the public. Representatives of the NRC review team provided information on different aspects of its review. This meeting format provided an opportunity for one-on-one interaction between members of the public and the NRC review team. Topical areas included: DP review status, alternative conceptual model uncertainty, radiological dose assessment, hydraulic barrier evaluation, radiological surveys and sampling, as-low-as-reasonably-achievable evaluations, and NRC monitoring activities.

On December 18, 2009, the DOE submitted the revised Phase I DP (revision 2) after incorporating changes in response to the NRC's request.

On February 25, 2010, the NRC transmitted to DOE-WVDP a Technical Evaluation Report for the Phase 1 DP, concluding that the Phase 1 DP was consistent with the preferred alternative in the FEIS. The NRC also determined that there is reasonable assurance that the proposed actions will meet the decommissioning criteria.

Phase 1 Characterization Sampling and Analysis Plan (CSAP) and the Phase 1 Final Status Survey Plan (FSSP).

The CSAP provides details about environmental data collection that will take place to support the decommissioning activities described in the Phase 1 DP. The DP provided the foundation for CSAP activities by defining the portions of the WVDP within the Phase 1 DP scope; identifying the radionuclides of interest; developing cleanup guidelines for soils that meet unrestricted release criteria; and describing events required to meet the Phase 1 DP objectives. The CSAP and FSSP are supporting documents that provide additional detail to implement and support Phase 1 DP activities, and support Phase 2 decisionmaking.

The CSAP data collection objectives are divided into four main categories:

- pre-design data collection to support appropriate Phase 1 designs;
- remedial action support to guide phase 1 activities while underway;
- post-remediation status documentation; and
- provide information to support Phase 2 decisionmaking.

Within these categories, specific goals have been defined to evaluate the radionuclides of interest for each waste management area (WMA), establish background data sets if necessary, and to determine the extent of surface contamination above the derived concentration guideline levels (DCGLs).

The FSSP provides protocols for demonstrating that specific portions of the WVDP premises meet the DCGLs developed by the Phase 1 DP. The FSSP applies to soils exposed as part of the WMA 1 and WMA 2 deep excavations, and potentially to surface soils outside those excavations where subsurface contamination is not present. The CSAP and the FSSP have very prescriptive requirements regarding sampling and analysis of soils. The CSAP was written so that data collection to support characterization can potentially be used for final status survey purposes. The data will be needed to verify achievement of Phase 1 DP goals.

NRC reviewed these plans and submitted comments to the DOE on May 17, 2010. The DOE subsequently issued responses to the NRC comments on October 21, 2010.

Resource Conservation and Recovery Act (RCRA)

RCRA and its implementing regulations govern the life cycle of hazardous waste from "cradle-to-grave" and mandate that generators take responsibility for ensuring the proper treatment, storage, and ultimate disposal of their wastes.

The EPA is responsible for issuing guidelines and regulations for the proper management of solid and hazardous waste (including mixed [radioactive and hazardous] waste). In New York, the EPA has delegated the authority to issue permits and enforce these regulations to NYSDEC. In addition, the U.S. Department of Transportation is responsible for issuing guidelines and regulations for labeling, packaging, and spill reporting for hazardous and mixed wastes while in transit.

Hazardous Waste Permitting. A hazardous waste permit is required for facilities that store large quantities of hazardous waste for more than 90 days or treat or dispose of hazardous waste at the facility. In 1984, the DOE notified the EPA of hazardous waste activities at the WVDP and identified the DOE as a generator of hazardous waste.

RCRA Part A Permit Application. In 1990, to comply with 6 NYCRR Part 373-3, a RCRA Part A (i.e., Interim status) Permit Application for the WVDP was filed with NYSDEC for storage and treatment of hazardous and mixed wastes. The WVDP has operated under interim status ever since. Facility operations are limited to those described in the RCRA Part A Permit Application and must comply with the interim status regulations; therefore, it must be revised prior to changes to the Project's waste management operations. Revisions to the RCRA Part A Permit Application were submitted to NYSDEC on February 3, 2010 and were conditionally approved by NYSDEC on June 9, 2011.

In accordance with the 6 NYCRR Part 373-3 requirements, the DOE prepared closure plans for the hazardous waste management units at the WVDP. The closure plans were transmitted to NYSDEC in anticipation of closure activities, and are revised as appropriate to address NYSDEC comments or changes in activities. To perform closure of a RCRA unit, NYSDEC must approve the closure plan and must be notified of the closure schedule. Waste is removed, and impacted areas are decontaminated. As identified in the closure plan, confirmatory sampling and analysis are performed, and data are evaluated and presented to NYSDEC in a closure certification report. Since 2006, two units (the interim waste storage facility and the lag storage building) have been clean-closed under interim status. A third unit, the lag storage area #1 (a unit that was not used for the management of hazardous waste), was also demolished and removed from the RCRA Part A Permit Application.

The RCRA Hazardous Waste Closure Plan for the Hazardous Waste Storage Lockers was submitted to NYSDEC on November 23, 2010 and approved on June 27, 2011. Closure plans for the remaining units were submitted with the RCRA Part B Permit application, as described below.

6 NYCRR Part 373-2 Permit Application. In 2003, NYSDEC made an official request for the submittal of a 6 NYCRR Part 373-2 Permit Application (i.e., Part B) for the WVDP. The complete 6 NYCRR Part 373-2 Permit Application was transmitted to NYSDEC in December 2004. This application included RCRA closure plans for all interim status units that continued to be managed in accordance with the 6 NYCRR Part 373-3 Permit Application.

On April 16, 2009, NYSDEC made an official request for submittal of a revised 6 NYCRR Part 373-2 Permit

Application for the WVDP. To streamline the permit application, process information and closure plans were excluded for any operating hazardous waste management unit in which no waste will be stored after May 1, 2012. It is anticipated that such units will be closed under interim status. The revised permit application was submitted to NYSDEC on September 30, 2010.

In a correspondence dated December 20, 2010, NYSDEC submitted a request to indefinitely suspend the review timeframe for the permit application due to the scope and breadth of the application. On January 11, 2011, the DOE and NYSERDA, through WVES, submitted a signed agreement for an indefinite suspension of the NYSDEC completeness review.

RCRA §3008(h) Administrative Order on Consent (Consent Order). Section §3008(h) of RCRA authorizes the EPA to issue an order requiring corrective action to protect human health or the environment if there has been a release of hazardous waste or hazardous constituents to the environment from a solid waste management unit (SWMU). The DOE and NYSERDA entered into the Consent Order with NYSDEC and the EPA in March 1992. Consent Order activities performed to date are summarized below.

- RCRA Facility Investigation (RFI)

The Consent Order required NYSERDA and the DOE's WVDP office to conduct RFIs (unit-specific environmental investigations) at SWMUs to determine if there had been a release or if there were a potential for release of RCRA-regulated hazardous constituents from SWMUs.

Because many SWMUs are contiguous, or so close together as to make their separate monitoring impractical, many SWMUs were grouped into larger units, referred to as super SWMUs (SSWMUs). This terminology is unique to the WVDP, and is not an official regulatory term. Descriptions of the SSWMUs, and the individual constituent SWMUs, are presented in Table ECS-4. Figures A-7 and A-8 in Appendix A show the locations of the WVDP SSWMUs. The final RFI reports were submitted in 1997, completing the investigative activities associated with the Consent Order. No corrective actions were required at that time as a result of the RFIs.

Groundwater monitoring, as recommended in the RFI reports and approved by the EPA and NYSDEC, continued during 2010 in compliance with the re-

quirements of the Consent Order. The groundwater monitoring results and the groundwater program at the WVDP are discussed in Chapter 4 "Groundwater Protection Program."

- Current Conditions Report

Pursuant to a request from NYSDEC, a report entitled "West Valley Demonstration Project Solid Waste Management Unit Assessment and Current Conditions Report" was submitted in November 2004. This report summarized the historic activities at individual SWMUs through the RFI activities and provided environmental monitoring data and information on site activities performed since the completion of the RFI reports.

This document was revised and submitted on September 29, 2010, incorporating changes in the operational status of each SWMU and providing updated environmental monitoring data. This document supported, and summary information was incorporated with, the revised 6 NYCRR Part 373-2 Permit Application.

- Corrective Measures Study (CMS)

In 2004, NYSDEC requested CMSs to be performed on six specific SWMUs at the WVDP. The six SWMUs were:

- NDA Burial Area (SWMU #2);
- NDA Interceptor Trench (SWMU #23);
- Demineralizer Sludge Ponds (SWMU #5);
- Lagoon 1 (SWMU #3);
- Construction Demolition and Debris Landfill (CDDL) (SWMU #1); and
- The Low-Level Waste Treatment Facility (SWMUs #17, #17a, and #17b).

The CMS Work Plan was conditionally approved by NYSDEC in October 2006. The draft CMS reports were revised in 2010 to provide closure information and to be consistent with the FEIS and the ROD. The revised documents were submitted to NYSDEC and the EPA on September 29, 2010.

- Interim Measures (IM)

The NDA, identified as SSWMU #9, is regulated under the Consent Order. In 1990, a trench system was constructed through the weathered Lavery till along the northeast and northwest sides of the NDA to intercept and collect groundwater that was po-

tentially contaminated with a mixture of radioactive n-dodecane and tributyl phosphate (TBP). Sampling location NDATR is a sump at the lowest point of the interceptor trench. Groundwater is collected at NDATR and is transferred to the low-level waste treatment facility for processing. Monitoring results in 2010 detected no TBP in groundwater from the NDA interceptor trench.

NDA Cap - Per the "CMS Work Plan for Select SWMUs" and in response to Core Team comments on the work plan, the DOE evaluated engineering controls to improve the integrity of the NDA cap. Pursuant to Section VI, paragraph 7 of the Consent Order, the DOE implemented a second IM to ensure a minimum four-foot-thick earthen cap, minimize the potential release of impacted groundwater from the NDA, and minimize water infiltration into the NDA until the final disposition of the NDA is determined and can be implemented.

In 2008, an approximately 850-foot-long trench was excavated along the south and western sides of the disposal area. The trench was backfilled with a bentonite and clay mixture that formed a low-permeability barrier (slurry wall) against lateral groundwater infiltration. The second part of the two-phase project involved resurfacing the entire five-acre landfill with additional soils, re-grading, compacting, and applying an impermeable geomembrane cover. The IM was within the scope and intent of the CX for small-scale, short-term cleanup actions, described in 10 Code of Federal Regulations (CFR) §1021, Subpart D, Appendix B, B6.1.

Following installation of the slurry wall and cap over the NDA, NYSDEC requested submittal of a report and evaluation of the effectiveness of the IM. The plan, "Hydrogeologic Changes Observed at the NDA Since the 2008 IM and Recommendations for Long-term Monitoring," was prepared and submitted for NYSDEC review. The evaluations showed that groundwater elevation measurements have exhibited measurable decreases in groundwater flowing within the NDA since implementing the IM. On the outboard side of the slurry wall, groundwater levels have fluctuated, suggesting some mounding around the south side as water meets the wall and is diverted. The most notable analytical change since 2008 involves increases in the gross beta and strontium-90 concentrations at the trench sampling location (NDATR). These increased concentrations are believed to be due to decreased

water volumes accumulating in the trench, resulting in less dilution. Based on the successful performance of the IM, DOE submitted a proposed revised NDA inspection and monitoring plan to NYSDEC in December 2010.

- Quarterly Reporting to the EPA and NYSDEC

In accordance with the Consent Order, the DOE transmits a quarterly progress report to the EPA and NYSDEC that summarizes all Consent Order activities conducted at the WVDP for the previous quarter. The summary includes progress and accomplishments, contacts with local community interest groups and regulatory agencies, changes to personnel, projected future work activities, and an inventory of mixed waste that was generated from decontamination activities during the reporting period. Other reports submitted to the EPA and NYSDEC under the Consent Order are the groundwater exception reports, and the NDA interceptor trench water level reports.

Hazardous Waste Management. Under RCRA, hazardous wastes at the WVDP are managed in accordance with 6 NYCRR Parts 370–374 and 376. Hazardous and mixed waste activities are reported to NYSDEC in the WVDP's Annual Hazardous Waste Report, which specifies the quantities of waste generated, treated, and/or disposed of, and identifies the treatment, storage, and disposal facilities used. The Annual Hazardous Waste Report for 2010 was submitted to NYSDEC in February 2011.

Additional reports are submitted each year to document hazardous waste reduction efforts. Pursuant to Article 27, Section 0908 of New York State Environmental Conservation Law, an annual update of the WVDP's Hazardous Waste Reduction Plan must be submitted to NYSDEC. The updates are submitted in two forms which differ slightly in scope. The plan is updated biennially to reflect changes in the types and amounts of hazardous wastes generated at the WVDP. The Annual Status Report for the Hazardous Waste Reduction Plan was submitted to NYSDEC on June 28, 2010. The biennial update to the Hazardous Waste Reduction Plan for CY 2010 was submitted to NYSDEC on June 21, 2011. Every other year, the Annual Status Report, essentially an abbreviated version of the biennial update, is submitted.

Mixed Waste Management. Mixed wastes that cannot be treated or disposed of within one year are managed according to the "Site Treatment Plan," prepared by the DOE under requirements of the Federal

Facilities Compliance Act (an amendment to RCRA), in accordance with a Consent Order agreement. The annually updated plan describes the development of treatment capabilities and technologies for treating mixed waste. The fiscal year (FY) 2009 update brought the waste stream inventory and treatment information current to the end of FY 2010. There were three proposed milestones, and all were completed by September 30, 2010. If acceptable treatment or handling options were not available for a specific waste stream, an alternate schedule was prepared. During 2010, 3,793 pounds (1,720.48 kilograms) of hazardous and mixed waste were shipped off site for disposal. (See Table ECS-5.)

When there is a change to a mixed waste stream treatment technology, a Treatability Study Report is required to be submitted to NYSDEC in accordance with requirements of 6 NYCRR Part 371.1. A treatability study was initiated in 2009 and continued in 2010 to "stabilize and solidify radioactive mixed waste liquids generated as a result of decontamination/acid flushing of the liquid waste treatment system." The first step was taking a sample of the mixed waste from the storage tanks for characterization purposes. Based on mixed waste characterization data, Perma-Fix of Florida, Inc. developed a proposed treatment plan and a final recipe for testing. This study supports plans to solidify high-activity wastes from on-site stored liquids.

Nonhazardous, Regulated Waste Management. Nonradioactive, nonhazardous material was shipped off site to solid waste management facilities in 2010. Certain components of this waste (lead-acid batteries and spent lamps [i.e., universal wastes]) were reclaimed or recycled at off-site, authorized reclamation and recycling facilities. Digested sludge from the site sanitary wastewater treatment facility was shipped to the Buffalo Sewer Authority for disposal. Sanitary treated wastewater was routinely sampled and discharged to Erdman Brook in compliance with the WVDP's State Pollutant Discharge Elimination System (SPDES) permit.

Waste Minimization and Pollution Prevention. WVES submitted an annual pollution prevention report to the DOE summarizing recycling and waste generation information. See Table ECS-6, "Pollution Prevention Progress for FY 2010;" Table ECS-7, "Affirmative Procurement Accomplishments for FY 2010;" and Chapter 1, "Environmental Management System." Reports are submitted to the DOE to document hazardous waste reduction efforts, as discussed previously in the "Hazardous Waste Management" section. WVES minimized waste generation by deploying the robotically con-

trolled Nitrocision® technology to decontaminate larger contaminated components. High-pressure liquid nitrogen abrasive evaporates and results in no additional waste. The technology has been highly successful in removing high-activity fixed contamination from cell surfaces and large pieces of equipment. WVES also deployed a filter crusher that processed 38 waste boxes containing high-activity radioactive filters, and remotely volume-reduced TRU waste containers by segregation and reclassification of approximately 80,000 ft³ (1,476 containers). These efforts reduced waste volumes and costs of final disposal.

CDDL Activities. The CDDL was closed in 1986 under a NYSDEC-approved closure plan for a nonradioactive solid waste disposal facility. Over time, the north plateau strontium-90 plume has migrated from the MPPB into the CDDL area and beyond. Characterization activities were performed during 2008 and 2009 to develop a plan to mitigate migration of the ground-water plume. Some of these activities were performed within and along the southern edge of the CDDL. Activities included Geoprobe® soil sampling and installing microwells within the disposal facility itself. In accordance with the closure plan, NYSDEC was notified of these activities. In 2010, a full-scale PTW was installed, south of the CDDL. Construction of the PTW did not impact the CDDL. See “Strontium-90 Plume Characterization and Remediation Activities in 2010” in Chapter 4.

SPDES Permit

On July 1, 2010, the DOE submitted to NYSDEC a Notice of Intent (NOI) and a storm water pollution prevention plan (SWPPP) applying for authorization from NYSDEC to utilize the SPDES General Permit (GP-0-10-001) for the management of storm water associated with preconstruction and construction activities while installing the north plateau PTW. NYSDEC granted authorization on July 7, 2010. The NOI and SWPPP were developed to address storm water, soil and sediment erosion control, and water quality requirements consistent with NYSDEC Storm Water Guidance Manual. All activities at the PTW construction site were in compliance with the requirements of GP-0-10-001, the SWPPP, and the NOI. The final requirement under GP-0-10-001, the issuance of the Notice of Termination, was submitted to NYSDEC in August 2011, following completion of the ground disturbance stabilization associated with the construction of the PTW.

On July 1, 2011, a modified SPDES permit became effective for the WVDP. Negotiations between the par-

ties had been ongoing since the expiration of the previous permit (February 1, 2009). The terms of the previous permit remained in effect after the expiration date according to provisions of the State Administrative Procedure Act.

Process Sewer Integrity Evaluation. A breach in a laundry process sewer tributary line was identified in 2003, and was subsequently identified as SWMU #45 under the Consent Order. A New York State-licensed professional engineer (PE) performed an integrity evaluation in 2004, and recommended scheduled video inspections and routine cleaning. The 2009 video inspection films were compared with the 2004 films and showed that the lines were in overall sound condition. As long as the pipes are kept clear of obstruction and are not allowed to surcharge, potential concerns would be mitigated. It was recommended by the PE that the lines should be reinspected on a five-year cycle, and that they be further cleaned of sediment and debris prior to future video surveys.

Environmental Issues

Unplanned Radiological Airborne Release. Although emissions were low, there was one unplanned radiological airborne release at the WVDP during CY 2010. A ventilation upset caused by a power outage during a severe storm event contributed to higher-than-typical americium-241 and plutonium discharges from the MPPB stack in July and August 2010. Below stack alarm set points, these discharges were detected by stack monitoring equipment and are included in the main stack source term modeled in this report. The dose to the maximally exposed off-site individual (MEOSI) from the main stack in CY 2010 was 0.0015% of the 10-mrem standard. Initiating conditions were determined and all personnel were briefed on the event to help in preventing recurrence. (See “MPPB Stack Ventilation – Severe Storm Event” in Chapter 2.) There were no unplanned releases of waterborne radioactivity in 2010.

EPA Interim Approval to Use Environmental Measurements for National Emission Standards for Hazardous Air Pollutants (NESHAP) Compliance. Radiological NESHAP compliance at the WVDP is currently demonstrated by (1) measuring (and/or estimating) radiological emissions in air released from the site during the CY of interest and (2) using EPA-approved computer models to estimate the dose to the MEOSI. This method is referred to as the “measure and model” approach, and is most suitable for point sources of air emissions such as stacks or ducts. Resulting dose estimates for the WVDP have always been far below

the 10-millirem/year compliance standard. (See Chapter 3 for a discussion of dose assessment methodology.)

NESHAP regulations in Title 40 CFR Part 61, Subpart H allow (with prior EPA approval) for use of an alternate method of demonstrating compliance by measuring environmental concentrations of airborne radionuclides at critical receptor locations. As WVDP facilities continue to be closed, the relative importance of diffuse (nonpoint) sources to dose estimates will increase as the number of point sources suitable for emission measurements decrease. Therefore, the measure-and-model approach for demonstrating compliance will become less representative of total WVDP emissions, and the alternative approach of environmental air sampling will become the more appropriate method.

In June 2007, the DOE submitted a plan and a request to the EPA for approval to use environmental air measurements for demonstrating NESHAP compliance at the WVDP. In February 2009, the DOE submitted to the EPA a request for approval to proceed with demolition of the MPPB (after shutting down the MPPB ventilation system) and submitted an updated plan for implementing a program of environmental measurements to document NESHAP compliance. The plan included a one-year period of using both the "measure and model" and the environmental measurement approaches to confirm compliance. On July 9, 2009, the EPA granted interim conditional approval for 24 months, subject to incorporating EPA changes to the proposed program. Numerous follow-up communications with EPA were held throughout 2009 and 2010. In a letter dated July 14, 2011, the EPA granted an additional 24-month extension of the interim approval period from July 9, 2011 to July 9, 2013. Implementation of an ambient program remains on hold, pending final decisions relating to demolition.

Safety Inspections of the WNYNSC Dams. A severe rain event in August 2009 caused flood damage to areas of the reservoirs and spillways of the two dams located on the WNYNSC property. These dams are maintained because they provide water for drinking and operational purposes for the WVDP. In 2009, NYSDEC performed a visual inspection after the storm damage and recommended enhancements to the maintenance and inspection plan for the lake dams and spillway. WVES incorporated the recommendations into the standard operating procedure for maintenance, inspection, and operation of the lake dams and emergency spillway. These enhancements include:

- Enhanced mowing and removing scrub vegetation from upstream and downstream lake dam faces and water flow pathway;
- Enhanced weekly inspections, as well as special inspections after a rain event of greater than one inch; and
- Comparison to photos of previous erosion damage.

Lagoon 3 Embankment Inspections. The lagoon 3 embankment was constructed in the 1960s to manage waters from operation of the low-level wastewater treatment facility (LLW2). In 1991, surface erosion and surface soil movement were observed. A stability evaluation, conducted by Empire Soils Investigation, Inc., concluded that overall global or deep-seated stability of the slope was adequate and that the observed soil movement was shallow. Five test borings were installed (piezometers and inclinometers) to provide continued monitoring. During 1998, one inclinometer became unreadable and observations included surface movement in the slope, settlement, new tension cracks, and stair movement/distortion. In 2005, the West Valley Nuclear Services Company retained a New York State-licensed PE from Empire GEO-Services, Inc. to perform a slope stability analysis which generally agreed with the original (1991) stability evaluation.

Slope stability analysis demonstrates that numerous factors determine the overall stability of the slope, the major factors being: soils strength parameters, groundwater elevation, and slope steepness. The most likely mode of slope movement at the site consists of shallow surface failures resulting from the upper portion of the indigenous soils becoming saturated from rainfall and surface waters.

The groundwater and surface water depths and elevations are compared to pre-determined "trigger elevation levels" in an effort to maintain a calculated minimum safety factor. These triggers, if exceeded, would require the lagoon to be held at less than 60% capacity.

In March 2008, a trigger elevation level was exceeded for one sample location. It was determined that surface slope movement resulted in a break of the piezometer. Lagoon 3 has since been held to 60% operating capacity.

During 2009, several actions were implemented to make improvements to the Lagoon 3 slope monitoring, inspection, and reporting. The Lagoon 3 road-

way was regraded to divert storm water runoff and a set of 11 settlement and displacement monitoring points were installed on the north face of the Lagoon 3 embankment.

During 2010, groundwater and surface water elevation measurements were routinely recorded, as well as inclinometer field observations and settlement readings associated with Lagoon 3. Semiannual photographs of the slope toe at Erdman Brook were taken to document visual conditions and for comparison to previous photographs. Based on the measurements and observations, and comparison with previous documentation, there appears to be minor indications of slope movement and sliding in the shallow subsurface portion of the upper embankment. However, no slope movement was observed at the toe of the slope along Erdman Brook.

Project Assessment Activities in 2010

Throughout CY 2010, assessments were conducted through the Integrated Assessment Program (IAP) at the WVDP. This program effectively complies with applicable DOE directives, regulations, standards, and integrated safety management system requirements. The IAP applies to all disciplines including, but not limited to, safety and health, operations, maintenance, environmental protection, quality, decontamination and decommissioning, HLW activities, emergency management, business processes, and management. Inspections, reviews, and oversight activities are routinely conducted to evaluate performance, reduce risk, and identify improvement opportunities.

The local DOE Project office and other agencies with responsibilities for the WVDP also independently reviewed various aspects of the environmental and waste management programs. At the conclusion of the reporting period, there were no outstanding issues that had not been satisfactorily addressed. Overall results reflected continuing, well-managed environmental programs at the WVDP. Refer to Chapter 1, Environmental Management System.

**TABLE ECS-3
WVDP Environmental Permits**

<i>Permit Name and Number</i>	<i>Agency/Permit Type</i>	<i>Description</i>	<i>Updates</i>	<i>Status</i>
West Valley Demonstration Project (WVDP) Resource Conservation and Recovery Act (RCRA) Part A Permit Application (United States [U.S.] Environmental Protection Agency [EPA] ID #NYD980779540)	New York State Department of Environmental Conservation (NYSDEC)/ Hazardous Waste	Provides interim status under RCRA for treatment and storage of hazardous waste.	The U.S. Department of Energy (DOE) is currently operating under the February 2010 RCRA Part A Interim Status Permit Application. Revisions to the Part A Permit Application were submitted to NYSDEC in February 2010, and conditionally approved on June 9, 2011.	A Title 6 of the Official Compilation of Codes, Rules, and Regulations of the State of New York (6 NYCRR) Part 373-2 (i.e., Part B) Permit Application (Rev. 1), was submitted to NYSDEC on September 30, 2010. In January 2011, the NYSDEC review was suspended indefinitely.
Air Facility Registration Certificate (9-0422-00005/00099)	NYSDEC/Air Emissions	Certificate caps nitrogen oxide and sulfur oxide emissions from 2 boilers.	None	No expiration date.
Main Plant Process Building (MPPB) Ventilation (WVDP-687-01)	EPA/National Emission Standards for Hazardous Air Pollutants (NESHAP)	MPPB ventilation radionuclide emissions (originally the Liquid Waste Treatment System [LWTS])	Conditional approval received on July 9 2009, to discontinue monitoring after establishing an ambient monitoring network and meeting EPA criteria. A 24-month extension of the conditional approval was granted by the EPA on July 14, 2011.	Original approved on December 22, 1987. Modified on May 25, 1989 for laboratories. Modified February 18, 1997 to include the slurry-fed ceramic melter. No expiration date.
Vitrification Facility Heating, Ventilation, and Air-Conditioning (HVAC) System (no permit number)	EPA/NESHAP	Vitrification facility HVAC system for radionuclide emissions	Facility being used for remote waste processing.	Approved on February 18, 1997. No expiration date.
01-14 Building Ventilation System (WVDP-187-01)	EPA/NESHAP	Ventilation of radionuclide emissions in the 01-14 building.	Building being readied for demolition.	Original approved on October 5, 1987. Modified on May 25, 1989 for LWTS. No expiration date.
Contact Size-Reduction Facility (WVDP-287-01)	EPA/NESHAP	Contact size-reduction and decontamination facility radionuclide emissions	Ventilation not in service; ventilated with portable ventilation units	Approved on October 5, 1987. No expiration date.
Supernatant Treatment System/Permanent Ventilation System (WVDP-387-01)	EPA/NESHAP	Supernatant treatment system ventilation for radionuclide emissions	System receives air ventilated from Tank and Vault Drying System.	Original approved on October 5, 1987. Modified on May 4, 1998 for full-time ventilation of waste tank farm. No expiration date.

Note: Permit and license expiration dates are current as of September 2011.

TABLE ECS-3 (continued)
WVDP Environmental Permits

Permit Name and Number	Agency/Permit Type	Description	Updates	Status
Outdoor Ventilated Enclosures/Portable Ventilation Units (PVU) (WVDP-587-01)	EPA/NESHAP	Fifteen PVUs for removal of radionuclides.	Since 2007 EPA approval to expand usage of PVUs from 10 to 15, the DOE tracks usage on the basis of annual cumulative estimated dose.	Original approved on December 22, 1987. Modified on December 10, 2007 for 15 units. No expiration date.
State Pollutant Discharge Elimination System (SPDES) (NY0000973)	NYSDEC/ Effluent water	Monitors discharges to surface waters from various on-site sources.	An amended SPDES Permit was issued by NYSDEC, effective July 1, 2011.	The permit expires on June 30, 2016.
North Plateau Permeable Treatment Wall (PTW) storm water discharges associated with construction activities (NYR 10S797)	NYSDEC/ Division of Water	NYSDEC authorization was required to utilize the general permit (GP-0-10-001) for management of storm water associated with construction activities during the installation of the north plateau PTW.	West Valley Environmental Services LLC (WVES) submitted to NYSDEC a Notice of Intent and Storm Water Pollution Prevention Plan (SWPPP) for storm water discharges associated with construction activities for the north plateau PTW preconstruction and construction activities at the WVDP.	All requirements of the SWPPP were met by December 2010, and the notice of termination was submitted to NYSDEC in August 2011, following ground disturbance stabilization.
New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) Certification to URS Corporation, Lab ID #10474 EPA Lab Code NY01259	NYSDOH/ELAP certification	Certification of the Environmental Laboratory for the analysis of potable and nonpotable water samples for specific radiological and nonradiological constituents.	Certification transferred from West Valley Nuclear Services Company to URS Corporation in April 2006. Effective February, 2009, the certificate was revised to remove total suspended solids. The certification was renewed on April 1, 2011.	Certification expires April 1, 2012.
Buffalo Pollutant Discharge Elimination System (10-06-TR096)	Buffalo Sewer Authority/ sanitary sewage sludge hauler permit	Permit issued to hauler of waste from the wastewater treatment facility.	Permit renewed in June 2010.	Permit expired on June 30, 2011. Service replaced by a new vendor.
Frank's Vacuum Truck Service (Permit #11-06-TR285)	Sanitary sewage sludge hauler permit	Permit issued to hauler of waste from the wastewater treatment facility.	Permit effective July 1, 2011.	Permit expires June 30, 2012.
Chemical Bulk Storage (CBS) (#9-000158)	NYSDEC/ regulated CBS tanks	Registration of bulk storage tanks used for listed hazardous chemicals.	Currently no tanks at the WVDP are regulated under 6 NYCRR Parts 595-599.	If regulated CBS tanks are needed in the future, a permit application will be submitted under the existing CBS registration.

Note: Permit and license expiration dates are current as of September 2011.

TABLE ECS-3 (concluded)
WVDP Environmental Permits

<i>Permit Name and Number</i>	<i>Agency/Permit Type</i>	<i>Description</i>	<i>Updates</i>	<i>Status</i>
Public Water System ID #NY0417557	Cattaraugus County Health Department	The WVDP is a non-transient non-community public drinking water system.	None	No expiration date.
Petroleum Bulk Storage (#9-008885)	NYSDEC/petroleum bulk storage tank registration	Registration of bulk storage tanks used for petroleum.	Diesel fuel tank FO-D-11 was permanently closed and removed from the license.	License expires September 2, 2011.
Asbestos-Handling License WVES #33657	New York State Department of Labor/asbestos-handling and sampling activities	WVES maintains the asbestos-handling license and specific variances for asbestos handling and monitoring.	Asbestos-handling license was renewed in September 2010	License expires on September 30, 2011; each variance has a unique expiration date.
NYS Atomic Development Dam #1 (ID #019-3149) NYS Atomic Development Dam #2 (ID #019-3150)	NYSDEC Division of Water, Bureau of Flood Protection and Dam Safety	Two Class A Low-Hazard dams on the Western New York Nuclear Services Center property, that supply water for drinking and operational purposes, are maintained at the WVDP.	NYSDEC inspected the dams in 2009 following a major storm rain-event. Repair or construction activities related to the dams may require permits from NYSDEC.	No expiration date.
Great Lakes Water Withdrawal Registration Certificate (NYGL08701)	NYSDEC	The legislation was enacted to gain more complete information for managing the state's water resources.	Certificate Issued August 24, 2011.	Certificate expires on August 24, 2013.
Underground Injection Control (UIC) Program Regulation (UICID: 11NY00906001)	EPA Groundwater Compliance Section	EPA regulates injection of tracer solutions into groundwater wells.	A suite of wells in the north plateau PTW were used to inject sodium bromide tracer solution to estimate groundwater flow velocities.	On November 18, 2010, the EPA authorized operation of injection wells.
Bird Depredation License (32)	NYSDEC/ Division of Fish and Wildlife	State license for the removal of nests of migratory birds.	License renewal application was submitted in October 2010.	The current permit remains in effect after the expiration date under the provisions of the State Administrative Procedure Act.
Bird Depredation Permit (MB747595-0)	U.S. Fish and Wildlife Service	Federal permit for the limited taking of migratory birds and active bird nests.	License was submitted on October 1, 2010.	Permit expires September 30, 2011.

Note: Permit and license expiration dates are current as of September 2011.

**TABLE ECS-4
Solid Waste Management Units (SWMUs) at the WVDP**

<i>WVDP RCRA Super SWMUs (SSWMU) and Constituent SWMUs Identified in the RFI</i>		
SSWMU	SWMU #	Constituent SWMUs
SSWMU #1 – Low-Level Waste Treatment Facilities (LLWTF)	3, 4, 17, 17a, and 17b	Former Lagoon 1 LLWTF and Lagoons 2, 3, 4, and 5 Neutralization pit and interceptors
SSWMU #2 – Miscellaneous Small Units	5, 6, 7, and 10	Demineralizer sludge ponds and solvent dike Effluent mixing basin Waste paper incinerator
SSWMU #3 – Liquid Waste Treatment System (LWTS)	18, 18a Sealed Rooms, and 22	LWTS Cement solidification system Sealed rooms associated with the LWTS in the main plant process building (MPPB)
SSWMU #4 – High-Level Waste (HLW) Storage and Processing Area	12/12a, 13, 19, and 20	HLW tank farm, vitrification test facility waste storage areas Supernatant treatment system, HLW vitrification facility
SSWMU #5 – Maintenance Shop Leach Field	8	Maintenance shop leach field
SSWMU #6 – Low-Level Waste Storage Area	9/9a, 15, 16/16a, and 38	Lag storage additions (LSAs) #1 and #2 hardstands, old and new hardstand storage areas Lag storage building, lag storage extension and LSAs #3 and #4, and the drum supercompactor
SSWMU #7 – Chemical Process Cell Waste Storage Area (CPC-WSA)	14	CPC-WSA
SSWMU #8 – Construction and Demolition Debris Landfill (CDDL)	1	CDDL
SSWMU #9 – Nuclear Regulatory Commission-Licensed Disposal Area (NDA)	2, 11/11a, 23, 31, and 39	NDA and NDA trench soil containment area, Kerosene tanks and NDA container storage area Interceptor trench project and staging area for NDA
SSWMU #10 – Integrated Radwaste Treatment System (IRTS)	21	IRTS drum cell
SSWMU #11 – New York State-Licensed Disposal Area (SDA)	NA	The SDA is a closed radioactive waste landfill that is contiguous with the Project premises and is owned and managed by the New York State Energy Research and Development Authority (NYSERDA). For more information, see their website at www.nyserdera.org .
SSWMU #12 – Hazardous Waste Storage Lockers	24	Hazardous waste storage lockers 1 to 4

Note: The WVDP RCRA SWMUs and SSWMUs are discussed under “RCRA §3008(h) Administrative Order on Consent.”

**TABLE ECS-4 (concluded)
Solid Waste Management Units (SWMUs) at the WVDP**

WVDP RCRA Individual SWMUs Not Associated with an SSWMU		
Individual SWMUs	25	Inactive scrap metal landfill adjacent to bulk storage warehouse (NYSERDA SWMU)
	26	Subcontractor maintenance area
	27	Fire brigade training area
	28	Vitrification hardstand
	29	Industrial waste storage area
	30	Cold hardstand area near the CDDL
	32	Old sewage treatment facility
	33	Existing sewage treatment facility
	34	Temporary storage locations for well purge water
	35	Construction and demolition area
	36	Old school house septic system
	37	Contact size-reduction facility
	40	Satellite accumulation areas and 90-day storage areas
	41	Designated roadways
	42	Product storage area
	43	Warehouse extension staging area
	44	Fuel receiving and storage area; high-integrity container and SUREPAK™ staging area
	45	Breach in laundry wastewater line
	46	Vitrification vault and empty container hardstand
	47	Remote-handled waste facility
----	Sealed rooms in the MPPB	

Note: The WVDP RCRA SWMUs and SSWMUs are discussed under “RCRA §3008(h) Administrative Order on Consent.”

TABLE ECS-5
Summary of Waste Management Activities at the WVDP in Calendar Year 2010

<i>Waste Description/ Facility</i>	<i>Type of Project Generating Waste</i>	<i>Quantity in 2010</i>	<i>Discussion</i>
Low-level radioactive waste (LLW)	Waste shipped	4,326 cubic feet (ft ³) (122.5 cubic meters [m ³])	Waste processed from the main plant process building (MPPB) under American Recovery and Reinvestment Act work scope.
LLW	Waste Shipped	19,934 ft ³ (564.5 m ³)	LLW shipped for disposal
Transuranic (TRU) legacy waste	Waste processing	444 containers (21,000 ft ³) (594.7 m ³)	Legacy TRU waste processed in preparation for shipment.
Hazardous and Mixed LLW	Waste management according to the Site Treatment Plan	3,793 pounds (1.7 metric tons)	Waste packaged and shipped during calendar year (CY) 2010
Radiological wastewater from the low-level liquid waste treatment facility (LLW2 [WNSP001])	New York State Department of Environmental Conservation regulates point-source liquid effluent discharges of treated process wastewater through the State Pollutant Discharge Elimination System Permit for the West Valley Demonstration Project.	About 10,330,000 gallons (gal) (39,100,000 liters [L])	During CY 2010, six batches of wastewater were processed through the LLW2. This included groundwater recovered from the north plateau groundwater recovery system (NPGRS) and groundwater pumped from the U.S. Nuclear Regulatory Commission-Licensed Disposal Area (NDA) interceptor trench.
Treated sewage and industrial wastewaters (WNSP007)	Wastewater processing, discharge	About 3,480,000 gal (13,200,000 L)	The wastewater treatment facility (WWTF) treated sanitary wastewater that was discharged through outfall WNSP007 in CY 2010.
NPGRS	Pump and treat strontium-90 (Sr-90) contaminated groundwater	About 3,003,600 gal (11,400,000 L)	The NPGRS operated to recover groundwater from an area near the leading edge of the Sr-90 plume on the north plateau. Water was treated by ion exchange to remove Sr-90, then transferred to the LLW2.
NDA interceptor trench	Interceptor trench (WNNDATR) and groundwater pre-treatment	About 63,300 gal (240,000 L)	Groundwater was pumped and transferred to the LLW2. No n-dodecane or tributyl phosphate were encountered in CY 2010. No pre-treatment was necessary.
Digested sanitary sludge	Waste shipping and disposal	30,000 gal (114,000 L)	Digested sludge from the WWTF was shipped to the Buffalo Sewer Authority for disposal during CY 2010.
Asbestos	Asbestos management and abatement	2,055 linear feet pipe insulation; 143 square feet asbestos-containing vessel/duct insulation	Insulation was removed from steam piping, vessels and ventilation ducts in the MPPB during CY 2010.

Note: Certain waste totals are tallied by FY while others are tallied by CY.

**TABLE ECS-6
Pollution Prevention Progress for Fiscal Year 2010**

<i>Recycled Materials</i>	<i>2010 Quantity (tons/metric tons)</i>
Corrugated cardboard	0.059 tons (0.053 metric tons)
Iron	14 tons (13 metric tons)
Office and mixed paper	30 tons (27 metric tons)
Styrofoam	0.015 tons (0.014 metric tons)
Toner cartridges	0.68 tons (0.62 metric tons)
Wood pallets	1.4 tons (1.3 metric tons)
Municipal solid waste	310 tons (281 metric tons)
Universal waste - spent bulbs	0.28 tons (0.25 metric tons)
Universal waste - spent batteries	2.7 tons (2.4 metric tons)
Electronics reuse and recycling campaign	Reuse: 4.1 tons (3.8 metric tons) Recycle: 1.1 tons (0.98 metric tons)
<i>Radioactive Waste Processing - Honorable Mention - DOE E-Star Award</i>	
<p>In 2011, West Valley Environmental Services LLC (WVES) was awarded an Honorable Mention for an Environmental Sustainability (E-Star) Award for radioactive waste processing activities.</p> <p>Three years ago, the United States Department of Energy (DOE) and WVES developed a plan to process and recharacterize and segregate approximately 80,000 ft³ (1,476 containers) of stored legacy transuranic (TRU) radioactive waste to prepare it for transportation and eventual off-site disposal, which:</p> <ul style="list-style-type: none"> - used a graded approach, approximately 9,500 cubic feet of the waste was reclassified as low-level radioactive waste; - achieved an overall approximate 75% volume reduction of legacy waste in storage; and - projected a significant cost savings due to TRU waste volume reduction, thereby reducing storage requirements, and projected future disposal cost. 	
<i>Other Accomplishments - Transfer or Sale of Excess Material</i>	
<p>Approximately \$1,000,000 worth of excess material (based upon estimated and/or actual acquisition costs) has been reused in fiscal year (FY) 2010 by transferring to other DOE facilities, Federal and State agencies, various DOE-sponsored programs, donation programs, auctions, and sales.</p>	
Transfers - estimated and/or actual acquisition cost	\$31,198
Computers for learning - actual acquisition cost	\$734,868
Energy-related laboratory equipment grants - estimated and/or actual acquisition cost	\$142,289
eBay - estimated and/or actual acquisition cost	\$20,043
Math & science equipment gift program - estimated and/or actual acquisition cost	\$20,126

TABLE ECS-7
Affirmative Procurement Accomplishments for Fiscal Year 2010

<i>Environmentally Preferable Products</i>	<i>Amount Purchased</i>
Binders	\$256
Bristols (file folders, card stock, tags)	\$3,379
Office recycling containers	\$116
Paperboard and packaging products	\$658
Plastic envelopes	\$2,896
Plastic trash bags	\$96,190
Printer ribbons	\$604
Re-refined lubricating oil	\$198
Sanitary tissue products	\$36,970
Solid plastic binders	\$1,260
Toner cartridges	\$7,144
Uncoated printing papers	\$44,272
<i>Bio-Based Products</i>	<i>Amount Purchased</i>
Adhesives and mastic removers	\$576
Air freshener	\$629
Bath and spa cleaners	\$957
Graffiti and grease removers	\$576
Hand cleaners and sanitizers	\$648
Laundry products	\$804
Greases	\$239
Penetrating lubricant	\$239

**TABLE ECS-8
WVDP 2010 Air Quality Noncompliance Episodes**

<i>Permit Type</i>	<i>Facility</i>	<i>Parameter</i>	<i>Date(s) Exceeded</i>	<i>Description/ Solutions</i>
U. S. Environmental Protection Agency, National Emission Standards for Hazardous Air Pollutants	All	All	None	None
New York State Department of Environmental Conservation, Air Permit	All	All	None	None

**TABLE ECS-9
Status of EPCRA (SARA Title III) Reporting at the WVDP for Calendar Year 2010**

<i>EPCRA Section</i>	<i>Description of Reporting</i>	<i>Submission to EPA</i>
EPCRA 302–303	Planning Notification	Not Required
EPCRA 304	Extremely Hazardous Substance Release Notification	Not Required
EPCRA 311	Material Safety Data Sheet	Not Required
EPCRA 312	Hazardous Chemical Inventory	Required
EPCRA 313	Toxic Chemical Release Inventory Reporting	Required

**TABLE ECS-10
Reportable Chemicals Above EPCRA 312 Threshold Planning Quantities (TPQ)
Stored at the WVDP in 2010**

<i>Chemicals Stored at the WVDP Above the TPQ</i>		
Diesel fuel/No. 2 Fuel Oil	Ion-exchange media	Sulfuric acid
Gasoline	Lead-acid batteries	Liquid nitrogen
Oils - various grades	Zeolite	

**TABLE ECS-11
WVDP 2010 NPDES/SPDES^a Permit Noncompliance Episodes**

<i>Permit Type</i>	<i>Outfall(s)</i>	<i>Parameter</i>	<i>No. of Permit Exceptions</i>	<i>No. of Samples Taken</i>	<i>No. of Compliant Samples</i>	<i>Percent Compliant Samples</i>
SPDES	All	All	0	1,668	1,668	100%

^a Radionuclides are not regulated under the site's SPDES permit. However, special requirements in the permit specify that the concentration of radionuclides in the discharge is subject to requirements of DOE Order 5400.5.

TABLE ECS-12
WVDP Migratory Bird Nest Depredation Episodes in Fiscal Year 2010

<i>Permit/License Type</i>	<i>Parameter</i>	<i>Permit/License Limit</i>	<i>Total Removed in 2010</i>
U.S. Fish and Wildlife - Bird Depredation Permit	Removal of Active Barn Swallow Nests	20	0
U.S. Fish and Wildlife - Bird Depredation Permit	Removal of Active American Robin Nests	15	0
U.S. Fish and Wildlife - Bird Depredation Permit	Removal of Active Eastern Phoebe Nests	5	0
U.S. Fish and Wildlife - Bird Depredation Permit	Removal of Active Canada Goose Nests	5	1
U.S. Fish and Wildlife - Bird Depredation Permit	Removal of Active Common Grackle Nests	15	0
NYSDEC - Bird Depredation License	Removal of Inactive Migratory Bird Nests	Not limited	4

This page intentionally left blank