



Review of Regulatory Technical Requirements for Recent Changes

Environmental Compliance Summary

Calendar Year 1991

Introduction: Compliance Status

Environmental compliance activities during 1991 at the West Valley Demonstration Project (WVDP) successfully addressed the full range of environmental laws and regulations, including the management of radioactive mixed wastes under the Resource Conservation and Recovery Act (RCRA). The WVDP presently is negotiating a Federal and State Facilities Compliance Agreement (FSFCA) to address compliance issues relating to radioactive mixed waste management. (See **Current Issues and Actions** below.)

All inspections and audits conducted by external agencies indicated full compliance. The audit conducted by the Department of Energy's Office of Environmental Audit noted significant improvements since the DOE Tiger Team's 1989 audit.

Management at the WVDP continues to provide strong support for environmental compliance issues, ensuring that all state and federal statutes and regulations, as well as Department of Energy (DOE) Orders, are integrated into the compliance program at the Project.

Clean Air Act (CAA)

The Clean Air Act establishes a comprehensive federal and state framework that regulates air emissions from both stationary and mobile sources: any emission sources of a CAA-regulated substance may require a permit or be subject to registration or notification requirements. Emission sources regulated by the CAA may include stacks, ventilators, ventilation ducts, wall fans, open burning, and dust piles.

Nonradiological emissions are regulated by the New York State Department of Environmental Conservation (NYSDEC). In 1991 NYSDEC approved the operation of a tank vent, a source-capture welding system, a paint booth, and laboratory equipment. Approval was also given to continue fire brigade training exercises under the conditions contained in a Restricted Burning Permit.

The WVDP operated under twenty active air permits in 1991. (See Table B-3 in *Appendix B*.) Of the twenty permits, six are for radiological emissions and therefore are regulated under the U.S. Environmental Protection Agency's (EPA) National Emissions Standards for Hazardous Air Pollutants (NESHAPs) program.

The annual NESHAPs inspection in May indicated no noncompliance episodes or notices of violation. Calculations to demonstrate compliance with NESHAPs standards showed 1991 doses to be less than $6 \times 10^{-3}\%$ (0.006%) of the 10 millirem standard.

The 10 millirem standard includes a *de minimis* value for which permit applications were not required to be submitted to the EPA. The WVDP modeled possible emissions and releases from four radiological release points to determine the need for monitoring and permitting: the contact size-reduction facility; the supernatant treatment system, ventilation of tank 8D-4; and the IRTS evaporator. None needed permit modifications.

Emergency Preparedness and Community Right-to-Know Act (EPCRA)

The purposes of EPCRA are to provide local governments and the public with information concerning potential chemical hazards in their communities and to encourage and support emergency planning efforts at the state and local levels.

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The EPCRA program requires the WVDP to submit reports to various off-site state and local emergency response organizations giving information about the quantities, locations, and any associated hazards of chemicals used and stored on-site. Additionally, the WVDP is required to submit an annual report to the Environmental Protection Agency (EPA) and the New York State Department of Environmental Conservation (NYSDEC) on toxic chemical emissions from the site.

All required reports were submitted to the appropriate organizations by the required deadlines. In compliance with the waste minimization and pollution prevention directives from the EPA and NYSDEC, the number of reportable chemicals used on-site during the 1991 reporting period were reduced from twenty-five to twenty-one.

The annual emissions report was submitted as required and noted a reduction from three toxic chemical emissions in 1990 to a single toxic chemical emission in 1991. The only reportable toxic chemical emission from the site was a nitric acid emission from venting of the storage tanks, conservatively calculated to be less than two pounds.

The WVDP also submits updates of the chemical site inventory every quarter to NYSDEC and the State and Local Community Emergency Planning Center. The update ensures that the public and emergency organizations have the most recent information about site conditions and operations.

Clean Water Act (CWA)

The Clean Water Act is the primary statute governing water pollution control programs in the United States. It controls discharges to surface water and groundwater by establishing a National Pollutant Discharge Elimination System (NPDES) permit program that requires permits to be issued specifying discharge standards and monitoring and reporting requirements. Authorized states are allowed to issue equivalent State Pollutant Discharge Elimination System (SPDES) permits.

SPDES-permitted Outfalls

All WVDP point source discharges to surface waters are permitted through the New York SPDES program.

The WVDP has three permitted outfalls:

- Outfall 001 discharges the effluent from the low-level radioactive wastewater treatment facility (LLWTF).
- Outfall 007 discharges the combined effluent from the site's sewage treatment plant and various non-radioactive industrial and potable water treatment systems.
- Outfall 008 directs groundwater flow from the north-east side of the site's LLWTF lagoon system through a french drain.

In 1991 treated water from the low-level waste treatment facility was discharged in six batches that averaged 5.7 million liters (1.5 million gals) each. The annual average concentration of radioactivity at the point of release was 26.2% of the DOE's derived concentration guides (DCGs). None of the individual releases exceeded the DCGs. (See the *Glossary* and Table B-1 in *Appendix B*.)

There were three instances in which the SPDES permit level for iron, 0.31 mg/L, was exceeded. The first excursion occurred in April when the flow-weighted iron concentration from outfalls 001, 007, and 008 was calculated to be 0.55 mg/L. The second and third occurred in August, when the flow-weighted concentrations were calculated to be 0.39 mg/L and 1.10 mg/L.

The level of naturally occurring iron in the raw water used by the WVDP was determined to be a contributing cause of the excursions. Precipitated iron in the site's discharge basins remains to be satisfactorily addressed. It is possible that natural sediments may become resuspended in the water column during batch discharge, thus causing an elevated iron level that is not directly due to the LLWTF effluent. The discharge pipe in the basin was elevated to limit contact of the treated water with the sediments. The limited data available appear to indicate a positive effect. Other remedial measures are currently being investigated.

There were no excursions attributable to the sewage treatment plant in 1991. A proposal for the expansion of the sewage treatment plant into a wastewater treatment facility has been forwarded to NYSDEC and is awaiting approval. Construction can begin following receipt of the permit approval application and National Environmental Policy Act (NEPA) documentation.

The New York State Department of Environmental Conservation (NYSDEC) did not conduct a formal SPDES inspection in 1991.

Stormwater Permit Application

Stormwater from municipal or industrial facilities may contain a variety of pollutants. To protect aquatic resources and the public health, new regulations require that facilities such as the WVDP must obtain permits specifying discharge limits.

The WVDP must submit a stormwater discharge permit application to NYSDEC by October 1, 1992. In preparation for the permit application, the WVDP obtained site-specific data through extensive sampling in 1991. Analytical results will be included on the application. Detailed maps describing site drainage patterns and the location of various process units and buildings will also be included in the permit application.

Safe Drinking Water Act (SDWA)

The Safe Drinking Water Act states that each federal agency having jurisdiction over a federally owned or maintained public water system must comply with all federal, state, and local requirements regarding safe drinking water. The drinking water quality program in the state of New York is administered by the New York State Department of Health (NYSDOH) through county health departments.

The WVDP obtains its drinking water from surface water reservoirs on the WNYNSC site and is considered a nontransient, noncommunity public water supplier, (i.e., it does not serve residents of the community outside the workplace but does regularly serve at least the same twenty-five people for six months of the year). As an operator of a drinking water supply system, the WVDP must sample the water and report the results of the analyses to the Cattaraugus County Health Department, which also collects independent samples periodically.

The water is purified by settling, filtration, and chlorination before it is distributed on-site. Monitoring results in 1991 indicated that the Project drinking water met NYSDOH drinking water quality standards. There were no violations of the drinking water program during 1991.

On August 19, 1991, representatives of the Cattaraugus County Health Department inspected the drinking water treatment facilities. No problems were noted.

Medical Waste Tracking

The WVDP transported two pounds of untreated, regulated medical wastes to Bertrand Chaffee Memorial Hospital, a licensed medical waste disposal facility, for incineration. The shipments consisted of medical dressings and inoculation needles.

Petroleum Product Spill Reporting

Under an agreement with the New York State Department of Environmental Conservation, the WVDP reports on-site spills of petroleum products of ten gallons or less onto an impervious surface (such as blacktop) in a monthly log. Spills that are greater than ten gallons that do not affect ground- or surface water or enter a drainage system must be reported to NYSDEC within twenty-four hours and entered on the monthly log. Spills of any amount that do affect waters of the state (groundwater, surface water, drainage systems) must be reported immediately to the NYSDEC spill hotline and also are entered in the monthly log.

There were forty-eight minor spills of petroleum products in 1991 totaling approximately 100 liters (26.4 gals). These spills were typically associated with the heavy industrial construction equipment currently on-site.

Of the forty-eight spills, only seven, totaling 71.3 liters (18.8 gals) required immediate notification of NYSDEC under the reporting protocol. All spills were cleaned up in a timely fashion in accordance with the WVDP Spill Prevention, Control, and Countermeasures Plan. None of the spills resulted in any discernible adverse environmental effect.

Resource Conservation and Recovery Act (RCRA)

Hazardous Waste

During 1991 the WVDP disposed of 0.24 tons of nonradioactive hazardous waste off-site, using permitted transportation and disposal services.

Sources of these materials ranged from expired laboratory chemicals to maintenance shop wastes. The WVDP also reclaimed, recycled, or rendered nonhazardous by neutralization 1.60 tons of material as part of its waste minimization and reduction program.

Radioactive Mixed Waste (RMW) Management Program

Radioactive mixed waste is waste that contains both a radioactive constituent, which is regulated by the Atomic Energy Act (AEA), and a hazardous waste component, regulated under RCRA. The WVDP has been operating under RCRA interim status for treatment and storage of radioactive mixed waste since June 1990. In April 1991 the WVDP amended its RCRA interim status application to allow for limited storage of nonradioactive hazardous waste.

Potential conflicts between RMW regulations under the Atomic Energy Act and under RCRA regulations led to the WVDP's initiation of discussions with the regulatory agencies to resolve these conflicts through a Federal and State Facilities Compliance Agreement (FSFCA). Negotiations on the FSFCA and a RCRA 3008(h) Administrative Order on Consent continued during 1991. These agreements will provide the means whereby the WVDP can comply with RCRA regulations and with the requirements of the AEA. (See **Current Issues and Actions** below.)

National Environmental Policy Act (NEPA)

The National Environmental Policy Act establishes the nation's policies for the protection of the environment. Its goals are to prevent or eliminate damage to the environment and to restore the environment where necessary. The President's Council on Environmental Quality, established by the National Environmental Policy Act, carries out this policy. Its regulations are found in the Code of Federal Regulations, Title 40, Parts 1500-1508 (40 CFR 1500-1508).

Since 1990, the Department of Energy has been revising its NEPA-compliance program. The latest draft of these proposed regulations was made available for review and comment August 22, 1991. The new rule has been approved by the President's Council on Environmental Quality and is being reviewed by the Office of Management and Budget. When made final, the Department of

Energy's NEPA compliance regulations will be codified in 10 CFR 1021.

1991 NEPA Activities

NEPA requires that any activity of a federal agency that might affect the environment be reviewed through preparation of detailed documents such as an environmental impact statement (EIS) or an environmental assessment (EA), thus ensuring that environmental information is available to public officials and citizens before decisions are made and before actions are taken.

Activities at the West Valley Demonstration Project that are subject to NEPA review are either ongoing activities to support solidification of the high-level waste (Phase I), or activities to support preparation of the environmental impact statement that will assess the effect of Project completion activities (Phase II).

Phase I

Phase I activities generally are small-scale activities typical of facility operation and maintenance. During 1991, fifteen proposed WVDP actions were submitted to DOE as categorical exclusions, recommending that because of their insignificant environmental impact no further NEPA review be required.

In addition to the categorical exclusions a draft environmental assessment for a proposed expansion to the WVDP sewage treatment plant continued in the DOE review and approval process during 1991. When completed, the environmental assessment will conclude in either a finding of no significant impact (FONSI) or the preparation of an environmental impact statement if the potential for significant environmental effects is established.

Phase II

Phase II site characterization activities continued in 1991. The baseline data collected through this characterization will provide the technical supporting information needed for the environmental impact statement for completion of the West Valley Demonstration Project and closure of the WNYNSC. Basic research continued in several primary areas of investigation: geology, seismology, hydrology, soil characterization, water quality, a radiological survey, and solid waste management unit assessment.

Current Issues and Actions

Resource Conservation and Recovery Act (RCRA)

The WVDP continued negotiations with the EPA and NYSDEC for a Federal and State Facilities Compliance Agreement regarding compliance with RCRA regulations pertaining to radioactive mixed waste management. The focus of these negotiations in 1991 was a RCRA 3008(h) Administrative Order on Consent.

The Administrative Order on Consent is an agreement between NYSDEC, the EPA, NYSERDA, and the DOE about the kind and extent of the work needed to identify and evaluate any hazardous waste constituent that may be at the WVDP site. The Order provides a framework for compliance with RCRA that is consistent with the environmental impact statement site characterization work for completion of the Project.

Negotiating the approach and requirements of the Consent Order was the primary focus in 1991. The data-gathering activities required by the Consent Order will continue to be integrated with the data-gathering work that has been under way for the EIS. Tasks were identified and schedules defined for activities that will take place in 1992 and 1993. (See **Current Issues and Actions**, *Environmental Compliance Summary: First Quarter 1992*.)

Hazardous Materials Transportation

A Department of Energy moratorium on shipments of hazardous/toxic wastes to commercial disposal facilities was declared in May 1991 after it was reported that shipments of hazardous waste from another DOE facility to a commercial disposal facility in Louisiana were allegedly radioactively contaminated.

In response, the Department of Energy published a PERFORMANCE OBJECTIVE FOR CERTIFICATION OF NON-RADIOACTIVE HAZARDOUS WASTE. The goal of the procedures and actions initiated by this document was to ensure that hazardous/toxic wastes shipped from DOE facilities to commercial treatment, storage, or disposal facilities "contain no measurable increase in radioactivity resulting from DOE operations" and comply with "DOE Order 5400.5 criteria for surface contamination."

All Department of Energy sites were required to examine and document hazardous and/or toxic waste shipments from 1981 to the present and to compare records against new DOE guidelines to ascertain whether any radioactively contaminated hazardous wastes had been shipped off-site.

Further, in order to resume shipping of hazardous/toxic waste, all DOE sites were required to identify and implement this objective in their hazardous/toxic waste management and transportation procedures and provide DOE Headquarters with documentation of the implementation, including the schedule for incorporating the objective into procedures.

The West Valley Demonstration Project submitted the historical data on waste shipments in September 1991 to DOE Headquarters. According to the stringent criteria set forth in the PERFORMANCE OBJECTIVE, no hazardous or toxic wastes shipped from the WVDP to commercial disposal facilities were radioactively contaminated. The data were reviewed by DOE Headquarters and accepted.

In August 1991 the WVDP submitted the necessary documentation of its plan for meeting the performance objective. Comments were received in September 1991 and were resolved by November 1991.

Department of Energy Environmental Audit

A comprehensive review of environmental monitoring, compliance, and management at the WVDP was conducted by a team of twelve auditors from the Department of Energy Headquarters Office of Environmental Audit from July 29, 1991 through August 16, 1991. Of the thirty-seven items identified by the team, more than half had been previously noted by WVDP management for correction or improvement. No deficiencies were found that represented conditions or actions posing a significant threat to public health or the environment.

In addition, the forty-one action items identified during the 1989 Tiger Team audit, which were formally closed out by the WVDP in February 1991, were reviewed by the audit team to verify completion.

In the judgment of the audit team, six of the items were not completed satisfactorily. These concerns were incorporated into the 1991 audit and WVDP Action Plan.

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The 1989 Tiger Team action items were formally closed by this action.

The draft audit team report was prepared and received by the WVDP in August 1991. A draft WVDP Action Plan Response was submitted to DOE in September 1991 and made final in April 1992. (See **Current Issues and Actions**, *Environmental Compliance Summary: First Quarter 1992*.)

Summary of Permits

Environmental permits in effect at the Project during 1991 are listed in Table B-3 of *Appendix B*.

Environmental **C**ompliance **S**ummary

First Quarter 1992

Introduction: Compliance Status

The compliance status of the West Valley Demonstration Project's major environmental programs through the first quarter of 1992 is noted below. Primary compliance inspections thus far in 1992 were by the New York State Department of Environmental Conservation (NYSDEC), which inspected the Project with regard to Resource Conservation and Recovery Act requirements and the Water Pollution Control Act and found the WVDP to be in full compliance.

Clean Air Act (CAA)

The WVDP has been involved in an ongoing review of proposed rulemaking associated with the 1990 CAA Amendments. The majority of the rules involve the protection of stratospheric ozone and reduction of hazardous air pollutants. The WVDP has provided comments to aid in developing the rulemaking process.

A proposed method for demonstrating compliance with periodic monitoring requirements for radionuclide emissions from DOE facilities (40 CFR 61.63) has been submitted to the EPA. The WVDP has been working with the EPA to develop additional compliance procedures.

The New York State Department of Environmental Conservation inspected the WVDP's air programs in January 1992 and found all areas inspected to be in regulatory compliance. The WVDP has received three permits to construct air emission sources associated with the vitrification cold chemical facility.

Clean Water Act (CWA)

The WVDP is preparing a final draft of its stormwater discharge permit application to be submitted to NYSDEC. It is expected to be submitted well in advance of the October 1, 1992 regulatory deadline.

The WVDP submitted an application to NYSDEC for renewal and modification of its State Pollutant Discharge Elimination System (SPDES) permit in May 1990. A draft SPDES permit was received in March 1992 with new and more stringent monitoring requirements, compared to the last permit. The WVDP submitted comments to NYSDEC on the draft permit.

A formal inspection of SPDES monitoring at the WVDP conducted by NYSDEC in March 1992 found no violations.

Safe Drinking Water Act (SDWA)

The WVDP was required in 1991 to monitor volatile organic chemicals from its potable water treatment plant every quarter. The last of four monitoring results was received in February 1992 and indicated that the Project is in compliance with SDWA regulations. Quarterly monitoring can now be reduced to once every five-year period. This schedule will be maintained as long as monitoring results remain within specified limits.

Emergency Preparedness and Community Right-to-Know Act (EPCRA)

Emergency and Hazardous Chemical Inventory (Tier II) reports for the 1991 reporting period were transmitted to the state and local emergency response organizations by the March 1, 1992 deadline.

Resource Conservation and Recovery Act (RCRA)

The WVDP's hazardous waste and radioactive mixed waste programs were inspected by the New York State Department of Environmental Conservation on March 17, 1992. There were no findings or notices of noncompliance.

The annual Hazardous Waste Generator/Waste Minimization Report was submitted to the New York State Department of Environmental Conservation by the March 1, 1992 deadline.

Hazardous Materials Transportation

The moratorium on hazardous/toxic waste shipments was lifted for the WVDP in January 1992 in accordance with the documentation and action plan that had been submitted by the WVDP in November 1991.

The WVDP was one of the first DOE sites approved to resume shipments of hazardous/toxic waste to permitted, commercial disposal facilities.

Medical Waste Tracking

The WVDP generates very small quantities of regulated medical wastes consisting of medical dressings and inoculation needles. The disposal facility that has been used in the past has been closed. Other options for medical waste disposal are being evaluated.

Department of Energy Environmental Audit

A final report by the Department of Energy Headquarters Office of Environmental Audit on the 1991 environmental audit was received by the WVDP in March 1992. The WVDP completed its final Action Plan and resubmitted it to DOE Headquarters in April 1992. More than 70% of the identified action items have already been resolved.

Current Issues and Actions

Resource Conservation and Recovery Act

The Department of Energy, the New York State Energy Research and Development Authority, the U.S. Environmental Protection Agency, and the New York State Department of Environmental Conservation completed negotiations concerning the RCRA 3008(h) Administrative Order on Consent. The effective date of the Order was March 15, 1992.

The work under the Consent Order requires detailed evaluations of solid waste management units to ascertain the potential for release of hazardous constituents; documentation of the interim measures that have been taken at the NDA interceptor trench project; documentation of the investigation of 1,1,1-trichloroethane, a volatile organic that had been detected in a groundwater seepage point; and potential additional interim measures or corrective measures studies, if necessary.

Detailed plans and schedules for all deliverables have been prepared and are being closely monitored. All commitments are currently on or ahead of schedule.

Negotiations also are continuing for a Federal and State Facilities Compliance Agreement between the EPA, NYSDEC, DOE, and NYSERDA. As noted in the *Environmental Compliance Summary: Calendar Year 1991*, this agreement addresses compliance issues resulting from dual regulation of radioactive mixed waste under the Resource Conservation and Recovery Act and the Atomic Energy Act.

Among other issues concerning radioactive mixed waste the FSFCA addresses compliance with RCRA land disposal restrictions that prohibit the storage of mixed waste if treatment and disposal facilities are not available. Realizing that many facilities lacked the capacity to treat radioactive mixed waste, the EPA granted a two-year variance from its prohibitions. The variance expired on May 8, 1992. Since treatment capacity remains limited, the WVDP has determined that all operations with the potential for generating radioactive mixed waste will be discontinued until an appropriate capacity variance is obtained or other relief is granted by the EPA. Only those activities necessary for safety or for protection of human health or the environment will continue. These activities would include those associated with compliance with operational safety requirements, regulatory release limits, and emergency response.