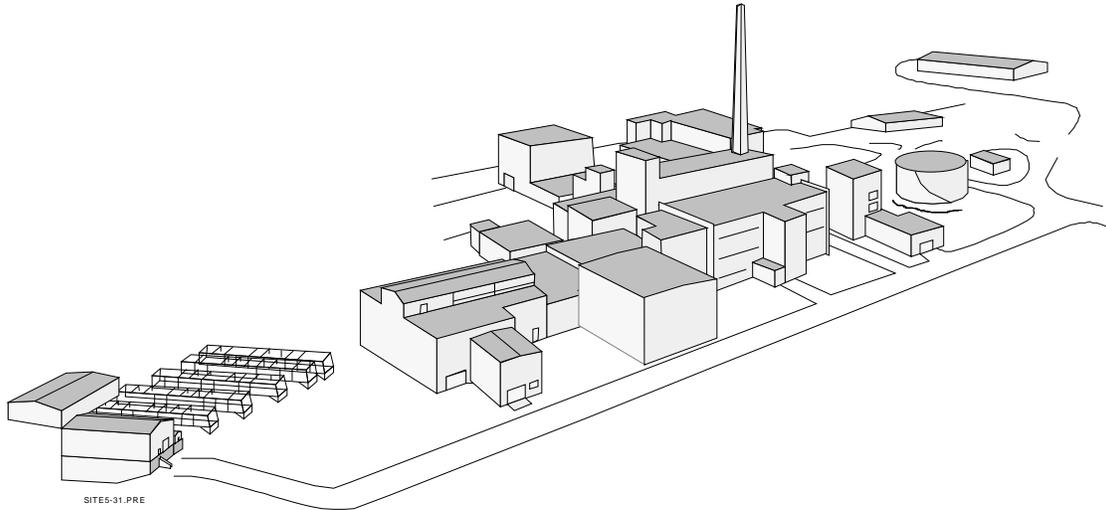

WEST VALLEY DEMONSTRATION PROJECT ANNUAL SITE ENVIRONMENTAL REPORT CALENDAR YEAR 2004



**WEST VALLEY NUCLEAR SERVICES COMPANY
AND
URS GROUP, INC.**



Prepared by: West Valley Nuclear Services Co. and URS Group, Inc.
Prepared for: U.S. Department of Energy
Ohio Field Office OH/WVDP

Under: Contract DE-AC24-81NE44139

August 2005
10282 Rock Springs Road
West Valley, New York 14171-9799



Department of Energy
Ohio Field Office
West Valley Demonstration Project
10282 Rock Springs Road
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To the Reader:

This report, prepared by the U.S. Department of Energy (DOE) Ohio Field Office West Valley Demonstration Project (OH/WVDP), summarizes the environmental protection program at the West Valley Demonstration Project (WVDP) for calendar year 2004.

Monitoring and surveillance of the WVDP facilities are conducted to verify that public health and safety and the environment are protected. The quality assurance requirements applied to the environmental monitoring program by the DOE ensure the validity and accuracy of the monitoring data. Also included in this report are groundwater and ambient air data from the New York State Energy Research and Development Authority's New York State-licensed Disposal Area.

At the WVDP, radiological air emissions are controlled and permitted by the U.S. Environmental Protection Agency (EPA) under National Emission Standards for Hazardous Air Pollutants, Subpart H, regulations. Nonradiological liquid effluent discharges are controlled and permitted through the New York State Pollutant Discharge Elimination System.

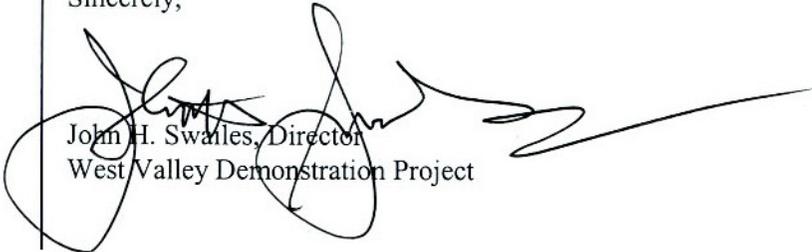
Air, surface water, groundwater, drinking water, soil, sediment, and biological samples are collected and analyzed for radiological and nonradiological constituents. The resulting data are evaluated to assess effects of activities at the WVDP. Monitoring of treated water effluents and facility ventilation system emissions verified that the dose received by off-site residents continues to be minimal.

Calculated doses to the hypothetical maximally exposed off-site individual from airborne radiological releases in 2004 were less than one-tenth of one (1) percent of the EPA limit. Combined airborne and waterborne radiological releases in 2004 to the same individual were less than one-tenth of one (1) percent of the DOE limit.

The Project's continuing commitment to safety was reaffirmed in 2004 when it was recertified as a DOE-Voluntary Protection Program (VPP) STAR site and approved for renewed membership in the EPA's National Environmental Performance Track. The WVDP is one of the few DOE sites to be awarded both the VPP STAR and National Environmental Performance Track membership. In 2004, West Valley Nuclear Services Company (WVNSCO) was awarded the DOE's Legacy of Stars Award, which was given in recognition of the continuance of three consecutive years as a Star of Excellence contractor.

If you have any questions or comments about the information in this report, please contact the WVNSCO Community Relations Department at (716) 942-2152 or complete and return the enclosed survey.

Sincerely,


John H. Swales, Director
West Valley Demonstration Project

SUMMARY OF CHANGES TO THE 2004 WVDP ANNUAL SITE ENVIRONMENTAL REPORT FROM THE 2003 ANNUAL SITE ENVIRONMENTAL REPORT

This report, prepared by the U.S. Department of Energy (DOE) West Valley Demonstration Project (WVDP) office, summarizes the environmental protection program at the WVDP for calendar year (CY) 2004. Monitoring and surveillance of the facilities used by the DOE for the WVDP are conducted in order to protect public health and safety and the environment. The quality assurance requirements applied to the environmental monitoring program by the DOE ensure the validity and accuracy of the monitoring data. Also included in this report are groundwater and ambient air data from the New York State Energy Research and Development Authority's New York State-licensed Disposal Area.

Changes in content for the 2004 Annual Site Environmental Report (ASER) are summarized below.

REVISIONS AND ADDITIONS

- The Environmental Compliance Summary was updated for CY 2004 to describe implementation of the WVDP environmental management system (EMS), compliance with DOE Orders, status of regulatory compliance, and permits effective during the year.
- Data and text were updated throughout to reflect results from the CY 2004 environmental monitoring program. Tables, graphs, maps, supplemental information sections, and references were updated.
- In an effort to further improve the readability of the ASER, sections were condensed by removing and referencing historical information and supplemental commentary and visual aids.
- To clarify the scope of the various super solid waste management units (SSWMUs) included in the groundwater program, one (1) new table that defines constituent solid waste management units for each SSWMU was added to Chapter 4.
- Data tables from three (3) air monitoring locations that were discontinued in 2003 (ANSEISK, ANLLW2V, and AFNASHV) were deleted from Appendix D. A data table for a new monitoring location at the Remote-Handled Waste Facility (ANRHWFK) was added.
- In Appendix E, Table E-1, that summarizes the groundwater monitoring network, was condensed and reformatted. Data formerly in two groundwater data tables that summarized indicator results from north plateau seeps and well points, respectively, were merged into other tables and the two tables were deleted from Appendix E.
- A data table summarizing analytical results for rail bed soil sampling was added to Appendix G.
- Two tables summarizing temperature and barometric pressure data were deleted from Appendix I.
- A new data table summarizing results of the Mixed Analyte Performance Evaluation Program, a crosscheck program in which the WVDP began participating in 2004, was added to Appendix J.

SPECIAL ISSUES IN CY 2004

- Construction of the Remote-Handled Waste Facility was completed. Processing of radioactive waste in the facility began in June 2004.
- In the main plant, the head end cells and extraction cell #2 were decontaminated.
- Major vessels were removed from the vitrification cell and packaged in secure containers. Decontamination of the vitrification cell continued throughout the year.
- Portable air samplers were used to monitor outdoor ventilation enclosures and portable ventilation units that were used in an expanded role to ventilate decontamination activities in the main plant.
- Processing, packaging, and shipping of low-level radioactive waste continued throughout the year.
- Sodium-bearing wastewater consisting of flushed liquid retrieved from the waste tank farm was solidified with cement into 17 containers that await off-site shipment.
- In preparation for future waste shipments by rail, the on-site railroad spur was repaired. Before repairs were completed, the rail bed soils were characterized for chemical constituents to identify appropriate soil management practices.
- In preparation for eventual site closure, several temporary office trailers and other structures that were no longer needed were dismantled and moved off site.
- The WVDP Waste Management Final Environmental Impact Statement was issued in January 2004.

West Valley Demonstration Project
Annual Site Environmental Report
for
Calendar Year 2004

Prepared for the U.S. Department of Energy

Ohio Field Office

West Valley Demonstration Project Office

under contract DE-AC24-81NE44139

August 2005

West Valley Nuclear Services Company and URS Group, Inc.

10282 Rock Springs Road

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Preface

Environmental monitoring at the West Valley Demonstration Project (WVDP) is conducted by the West Valley Nuclear Services Company (WVNSCO), under contract to the U.S. Department of Energy. The data collected provide an historical record of radionuclide and radiation levels and chemical data from natural and man-made sources in the survey area. The data also document the chemical and radiological quality of the groundwater on and around the WVDP and of the air and water released by the WVDP. Meteorological data are also presented.

It is the policy of the WVDP to conduct all activities, including design, construction, testing, start-up, commissioning, operation, maintenance, and decontamination and decommissioning, in a manner that is appropriate to the nature, scale, and environmental effects of these activities. The WVDP is committed to full compliance with applicable federal and New York State laws and regulations for the protection of the environment, to continual improvement, to the prevention and/or minimization of pollution, and to public outreach, including stakeholder involvement.

This report represents a single, comprehensive source of off-site and on-site environmental monitoring data collected during 2004 by environmental monitoring personnel. The environmental monitoring program and results are discussed in the body of this report. Additional monitoring information is presented in the appendices. Appendix A contains maps of on-site and off-site sampling locations. Appendices B through L can be found in electronic format on the compact disk (as indicated by the  icon) located inside the back cover. Appendix B is a summary of the site environmental monitoring schedule. Appendices C through J contain summaries of data obtained during 2004 and are intended for those readers interested in more detail than is provided in the main body of the report. Appendix K lists laws and regulations pertaining to the WVDP. Appendix L provides groundwater monitoring data from the New York State-licensed Disposal Area.

Requests for additional copies of the 2004 Annual Site Environmental Report and questions regarding the report should be referred to the WVDP Community Relations Department, 10282 Rock Springs Road, West Valley, New York 14171 (telephone: 716-942-2152). Additional Project information, including WVDP site environmental reports, is available on the internet at <http://www.wv.doe.gov>.

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