



A Brief History of Reprocessing and Cleanup in West Valley, NY

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Summary

West Valley, New York is the site of the first and, to date, only commercial reprocessing plant in the United States. After beginning operations in 1966 with a theoretical capacity to reprocess 300 metric tons of spent nuclear fuel per year, the facility reprocessed a total of 640 tons of waste in six years before shutting down in 1972. In that time, it transformed West Valley into a radioactive waste site, ultimately accumulating over 600,000 gallons of high-level waste in onsite storage tanks. After years of delay, legal disputes, and waste treatment and billions of dollars in federal expenditures, stabilization of the high-level waste under the West Valley Demonstration Project (WVDP) was completed in 2002, but all of it remains onsite. Cleanup of reprocessing activities at the site, including “low-level” waste removal and decontamination, is expected to take 40 years and cost over \$5 billion.

Performance

Throughout its short operating life, the West Valley reprocessing plant performed at roughly 18 percent capacity. Based on cost-saving design decisions, it also had a alarming record for worker exposures to radiation, with doses so high that *Science* called them “almost without precedent in a major nuclear facility.”¹ After permanent closure in 1976, ownership of West Valley, now a radioactive waste storage site, reverted to the state of New York.

Cleanup

Congress approved the West Valley Demonstration Project Act in 1980 (P.L. 96-368), charging the Department of Energy (DOE), in cooperation with other federal agencies and the state of New York, with cleaning up hundreds of thousands of gallons of remaining high-level liquid waste, removing irradiated nuclear fuel assemblies and dismantling contaminated reprocessing facilities. Through a technology known as “vitrification,” the process of solidifying the most dangerous waste into glass and enclosing it in stainless steel canisters, high-level waste at the facility was stabilized in 2002. The vitrified waste is still stored on site awaiting a final destination, but problems of low level waste, and soil, building, and groundwater decontamination remain.

Costs

The DOE’s 1996 Environmental Impact Statement on West Valley placed the total cost of cleanup and complete removal of all contamination from reprocessing at \$5.2 billion.² In 2001, the General Accounting Office (GAO) released a report estimating a total cost of \$4.5 billion for WVDP activities over a timeframe of 40 years.³ That figure has since been updated to reflect an increase of roughly \$800 million due to schedule delays and waste disposal uncertainties.⁴ According to the federal statute, New York is responsible for 10 percent of these cleanup costs.

The price of building the West Valley facility is not included in those estimates. A public-private partnership, the cost of constructing the reprocessing site was estimated at \$28 million in 1963, which would translate to \$150-180 million in 2006 dollars. New York bore about 30 percent of those construction costs. Data showing local economic and health impacts in the aftermath of the reprocessing plant’s closure are also not included in the GAO estimates.

Timeline

1966	West Valley reprocessing plant opens, operated by Nuclear Fuel Services
1972	West Valley closes for renovations, never to reopen
1976	Nuclear Fuel Services cedes plant ownership to the state of New York, citing rising costs
1980	Congress passes the West Valley Demonstration Project Act
1988	High-level waste pretreatment begins at WVDP
1999	Vitrification of high-level waste initiated
2001	GAO releases report estimating \$4.5 billion in total WVDP cleanup costs (GAO-01-314)
2002	High-level waste vitrification completed
2003	WVDP's focus shifts to low level waste
2005	GAO revisions indicate growth in cleanup cost total by \$800 million
2006	New York sues the DOE, asking the court to determine the level of federal responsibility under the law, including long-term stewardship of the site, and seeking reimbursement of New York's costs and compensation for some aspects of the cleanup effort

Additional Information:

- **Official DOE West Valley Demonstration Project:** <http://www.wv.doe.gov/>
- **New York State's West Valley** web page: http://www.nyserda.org/programs/West_Valley/default.asp?i=29
- **West Valley Citizen Task Force** (DOE and state-supported public group): <http://westvalleyctf.org/>
- **Coalition on West Valley Nuclear Wastes** (Local group): <http://www.digitup.org/>
- **Nuclear Information and Resource Services (NIRS):** <http://www.nirs.org/radwaste/decommissioning/decommissioninghome.htm>

Endnotes:

¹ “‘Transient’ Nuclear Workers: A Special Case for Standards,” *Science*, Vol. 186, October 11, 1972, p. 125-129.

² “Draft Environmental Impact Statement for Completion of the West Valley Demonstration Project and Closure or Long-term Management of Facilities at the Western New York Nuclear Service Center,” Department of Energy and New York Energy Research and Development Authority, January 1996. Table S-2 on page S-7 lists a figure of \$8.3 billion in 1996 dollars, but that includes cleanup of other radioactive waste facilities at West Valley; \$5.2 billion is the estimate for reprocessing facilities: <http://www.wv.doe.gov/pdf/Draft%20EIS%20Comp%201996.pdf>

³ “Nuclear Waste: Agreement Among Agencies Responsible for the West Valley Site is Critically Needed,” General Accounting Office (now Government Accountability Office), (GAO-01-314, May 2001): <http://www.gao.gov/new.items/d01314.pdf>

⁴ “Better Performance Reporting Needed to Assess DOE’s Ability to Achieve the Goals of the Accelerated Clean Up Program,” General Accounting Office (now Government Accountability Office), (GAO-05-764, July 2005): <http://www.gao.gov/new.items/d05764.pdf>

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