



NYSERDA

History of the Western New York Nuclear Service Center

May 3, 2016

NYSERDA holds title to the entire Western New York Nuclear Service Center on behalf of the State of New York.

The Center is:

- 3,330 acres in northern Cattaraugus County.
- 15 acres in southern Erie County.



Map of Cattaraugus Creek from the Western New York Nuclear Service Center to Lake Erie



Creation of the Western New York Nuclear Service Center

The Western New York Nuclear Service Center owes its existence to the federal government's programs of the 1950s that were created to develop peaceful uses for nuclear energy.



President Eisenhower's "Atoms for Peace" speech to the United Nations in 1953

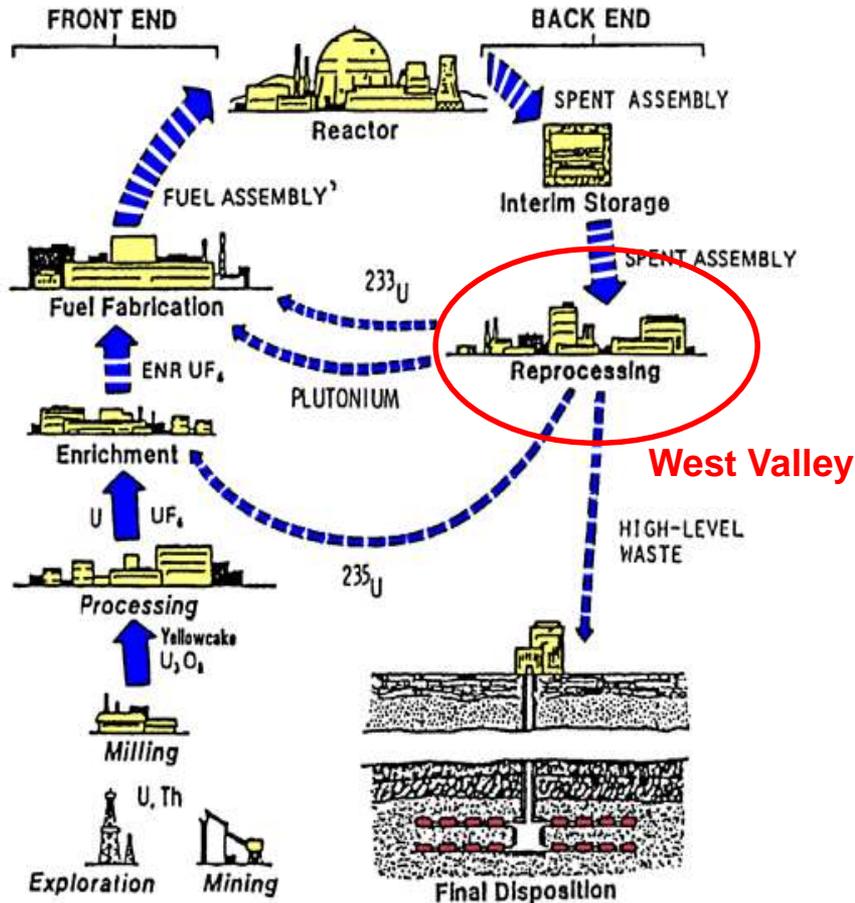


Signing of the Atomic Energy Act of 1954

The Atomic Energy Act of 1954 put the nation's nuclear program into the hands of a civilian agency, the U.S. Atomic Energy Commission (AEC), rather than the U.S. military.

The development of a civilian nuclear power industry was major component of Atoms for Peace.

Development of Civilian Reprocessing Capability



Along with the civilian nuclear power program came the need for a civilian nuclear fuel reprocessing program.

In 1956, the Atomic Energy Commission (AEC) announced a program to encourage private industry to develop reprocessing plants.

Through this program, the AEC would:

- Make classified technology on spent fuel reprocessing available to private industry;
- Invite proposals by private industry to design, construct, and operate spent fuel reprocessing plants; and
- Provide a baseload of spent fuel to keep reprocessing plants operating until additional commercial power reactors were constructed.

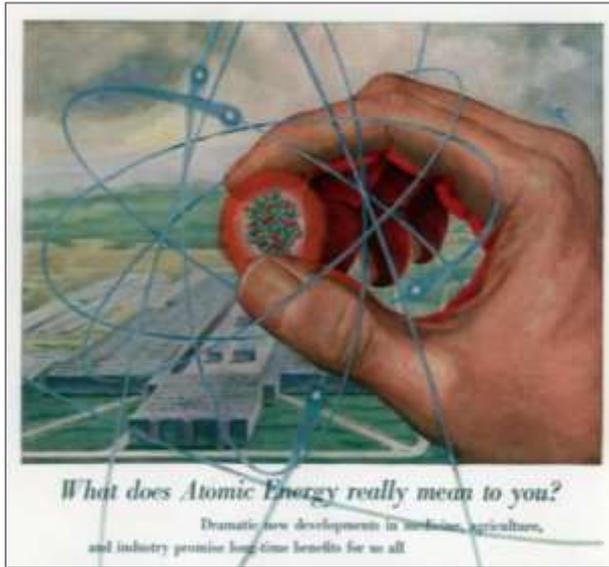
New York State Interest in Spent Fuel Reprocessing

New York State became interested in the AEC privatization program as a way to promote industrial development within the State.

West Valley



- New York State established an Office of Atomic Development (OAD) in 1957.
- 3,300 acres were acquired by the OAD near the hamlet of West Valley in 1961 for a reprocessing facility.
- The NYS Atomic Research and Development Authority (ARDA) was created in 1962.
- The site was transferred from OAD to ARDA in 1963.



1962 - NYS Atomic Research and Development Authority



1963 – NYS Atomic and Space Development Authority



1975 – NYS Energy Research and Development Authority

Nuclear Fuel Services (NFS) builds and operates the West Valley Reprocessing Plant

NFS was established as a subsidiary of W.R. Grace and Company to pursue the reprocessing venture at West Valley.

Getty Oil Co. acquired all stock of NFS in 1969.



Ground was broken by Governor Rockefeller, AEC Commissioner Robert E. Williams, and J. Peter Grace in June 1963.

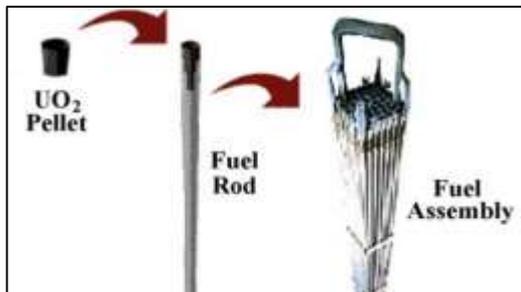
NFS was licensed as the operator of the facility, and the New York State Atomic and Space Development Authority (the predecessor agency to NYSERDA) was licensed as the owner.

- The cost of the plant was \$33 million.
- Construction was completed in 1966.

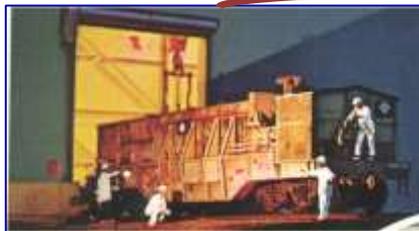


NFS Spent Nuclear Fuel Reprocessing at West Valley

Spent Nuclear Fuel



Spent fuel arrived in shielded rail cars



The spent fuel was stored in a spent fuel pool



The spent fuel was chopped and chemically processed

Uranium and plutonium were recovered and sent for reuse



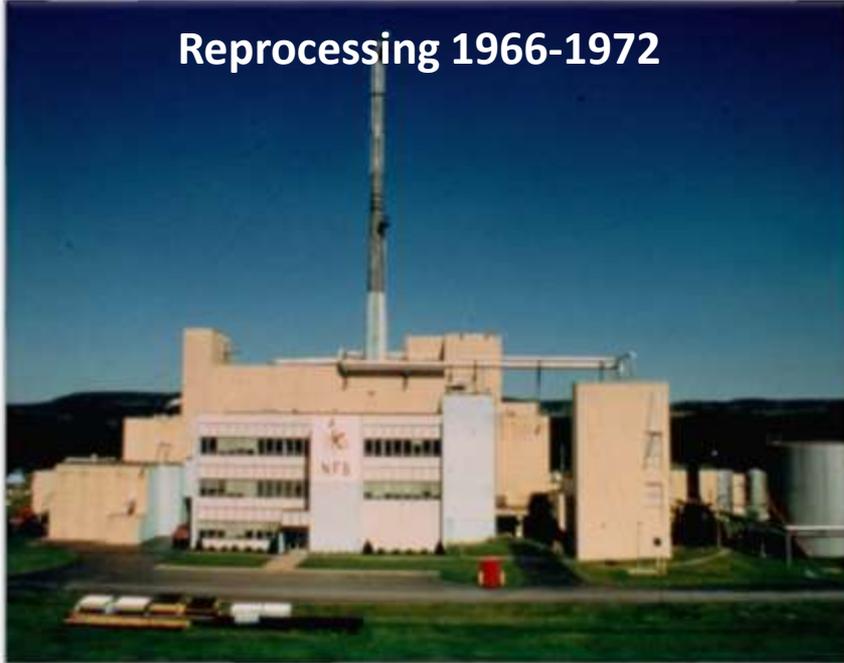
Solid radioactive waste was disposed in two on-site facilities



Liquid waste was sent to HLW Tanks

NFS Operations at West Valley

Reprocessing 1966-1972



700 tons of spent fuel were reprocessed



2.5 million cubic feet of radioactive waste were disposed at the site

There were two commercial operations at West Valley –
Spent nuclear fuel reprocessing and radioactive waste disposal

NFS Halts Reprocessing in 1972

- **NFS halted reprocessing in 1972 to make process improvements.**
- **Modifications were expected to cost \$15 million.**
- **New federal regulations were issued for waste management and seismic protection.**
- **NFS estimated that meeting the new regulations would cost \$600 million.**



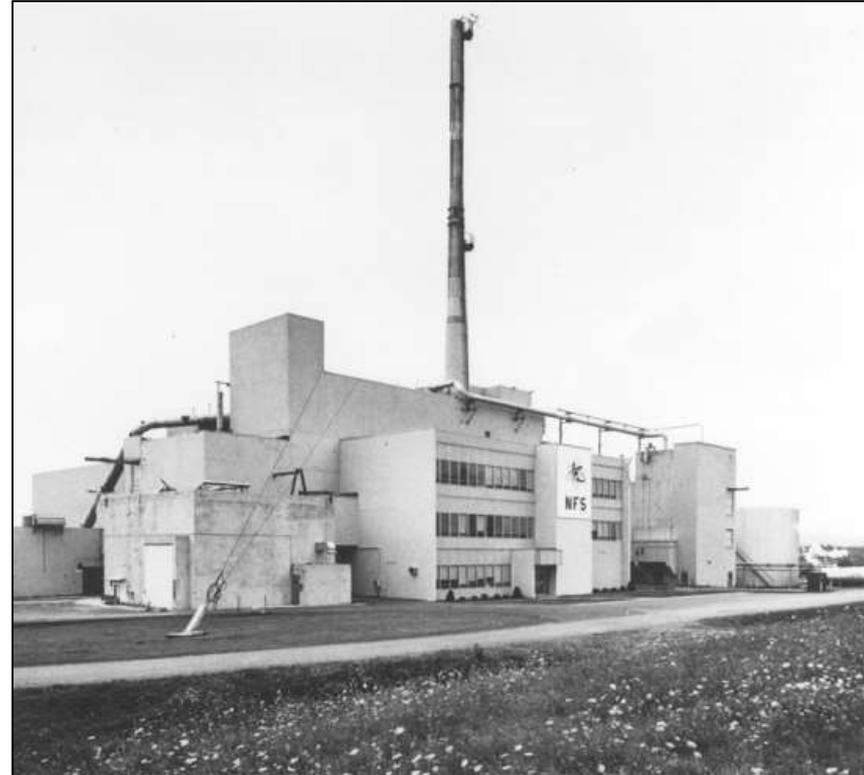
NFS Terminates Reprocessing at West Valley in 1976

In 1976, NFS informed NYSERDA that it would not resume reprocessing and would transfer the facility to NYSERDA when the lease expired in 1980.

At the time NFS said it would withdraw from West Valley, the site contained:

- 600,000 gallons of liquid high-level radioactive waste.
- 2.5 million cubic feet of radioactive waste in two disposal facilities.
- Highly contaminated reprocessing facilities.

75 percent of the spent fuel came to West Valley from the federal government; 60 percent of the fuel was from an N-Reactor at the Hanford Site in Washington State.



1980 West Valley Demonstration Project Act

- Congress held hearings and directed the Department of Energy (DOE) to study options for the future of the Center.
- Congress passed the West Valley Demonstration Project Act in 1980, establishing the HLW solidification and decommissioning project at the site that would be led by DOE.
- DOE took possession of ~200 acres of the Center in 1982.



President Carter Signs the WVDP Act

Tuesday, March 9, 1982

DOE Takes Over At West Valley Nuclear Fuel Site

The Department of Energy has taken control of the former nuclear fuel reprocessing complex in West Valley, N.Y., following a heavy push from Sen. Daniel Patrick Moynihan (D-N.Y.) and Rep. Stanley Lundine (D-N.Y.). Once Moynihan and Lundine intervened, the state of New York, which owns the site, and Nuclear Fuel Services, Inc. (NFS), which operates the plant and still has possession of it, had been at loggerheads over the transfer.

DOE was ready to start work at the site last October. Some 600,000 gallons of liquid, high-level radioactive wastes are sitting in tanks, the result of commercial nuclear fuel reprocessing done between 1966 and 1972 at the plant located 30 miles southeast of Buffalo. NFS decided in 1976 to get out of reprocessing. A 1980 law provided for a DOE-run cleanup at West Valley.

But the New York State Energy Research and Development Authority and NFS—a subsidiary of Getty Oil Co.—were unable to agree on how the turnover should come about. NYSERDA wanted NFS to turn the site directly over to DOE. NFS preferred relinquishing the site to the state, then having the state

West Valley Pact Starts Cleanup

Energy Dept. Takes Site Immediately

By Bob DeWitt

The high-level cleanup of the West Valley nuclear reprocessing plant, which has been under way since 1976, will now be managed by the U.S. Department of Energy, according to a new agreement reached here Tuesday.

The agreement calls for the transfer of the site to the U.S. Department of Energy by the end of the month.

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James L. Lawrence, chairman of NFS, said the agreement was a major step toward the cleanup of the site.

As yet no one has agreed on how the turnover should come about. NYSERDA wanted NFS to turn the site directly over to DOE. NFS preferred relinquishing the site to the state, then having the state

Transfer of N.F.S. Facility to be Made at Midnight this Thursday

By Tom Kelly

Transfer of operational control of the facility from its present operator, Nuclear Fuel Services, to the DOE's operating contractor, West Valley Nuclear Fuel Services, Co., a subsidiary of Washington, will be accomplished Thursday night at midnight, February 10, 1982. A press conference and facility tour for the media will be held at 6 a.m. Friday, February 11, 1982.

The U.S. Department of Energy and its operating contractor, West Valley Nuclear Fuel Services, were notified late last week that the transfer of the West Valley Demonstration Project to the U.S. Department of Energy for the purpose of the West Valley Demonstration Project Act.

The agreement by the State of New York and Nuclear Fuel Services, signed by Federal Judge John T. Etkin, marks the end of a

battle that has delayed the takeover by the Federal Department of Energy and work leading to the eventual decommissioning project to clean up the high level nuclear wastes.

The wrangling between the State and the U.S. has been going on for more than thirteen months now, following the settlement, planning and work will probably take place for approximately eighteen years before the cleanup is completed.

The Federal Government will pick up 90% of the total cost and, after the project is completed, the land and buildings will become the property of the State of New York. Total cost is not considered to reach at least \$60 million.

James L. Lawrence, the Chairman of the New York State Energy Research and Development Authority, pledged that the cleanup will get these nuclear wastes to a point that will permit their safe and prompt transfer from

West Valley to a federally owned government repository. There is an annual repository at present, but another is in the future. It is expected that there will be such a site.

The Getty Oil Co., which owns N.F.S., will remain involved with the final and future is involved in the low-level nuclear waste burial ground containing contaminated materials ranging from medical wastes to animal carcasses used in scientific research.

West Valley Demonstration Project Act

WVDP Act Requires DOE to:

- Solidify the high-level radioactive waste.
- Develop containers suitable for permanent disposal of the solidified High-Level Waste (HLW).
- Decontaminate and decommission the HLW tanks, facilities used in the solidification, and material and hardware used in connection with the Project in accordance with such requirements as the Commission may prescribe.
- Dispose of low-level and transuranic waste.
- Transport the solidified HLW to a federal repository for permanent disposal.

Under the WVDP Act, DOE pays 90% of the WVDP costs and NYS pays 10%.¹

¹ Additional cost splits identified in a 2010 Consent Decree, resulting from a lawsuit filed by NYSERDA and New York State in 2006.



