

## **History of West Valley**

Thirty miles south of Buffalo, New York, the West Valley nuclear waste site sits on a plateau slowly but certainly eroding away with time. In the 1960's, when Nuclear Fuel Services begin reprocessing nuclear fuels, the potential dangers were rapidly outweighed by the enthusiasm for nuclear reprocessing and the economic prosperity it promised. After nearly a half century, there is no doubt that this decision was a mistake for the region's safety and health. The six years in which this facility reprocessed nuclear fuel have been dramatically overshadowed by decades of fierce debate about the cleanup of the site.

### **Radioactive Contamination**

The site is in the Town of Ashford in Cattaraugus County, NY. At least 250 of the 3,345 acres have been heavily contaminated with nuclear and hazardous wastes. By today's standards, a nuclear facility would not be allowed on land as erosion-prone as the West Valley site. *The site is burdened with vast amounts of toxic and radioactive wastes, many of which will remain radioactive for tens of thousands of years, some for millions of years.* The list of contaminated wastes reads like a laundry list of dangerous elements: cesium-137, plutonium-238, -239, -240, and -241, uranium-238, iodine-129, tritium, and thorium-234, amongst others. These elements, if ingested or inhaled, lodge in human tissues, fat, or bone and are known to be responsible for leukemias and cancers at very low doses. There is no known safe level of exposure to radioactive chemicals—each exposure increases the likelihood that cancer and other health effects may occur.

*The site has been plagued with problems from the start, including leakage of radioactive and toxic waste in several areas, such as a significant underground plume of radioactive elements spreading through groundwater. Waste from the site has been found as far away as the sediment along the shore at the juncture of the Niagara River and Lake Ontario.\**

### **Site Created by Country's Failed Commercial Reprocessing Facility**

*The site is the nation's only venture into commercial reprocessing of irradiated nuclear fuel.* The Nuclear Fuel Services (NFS) facility was a Plutonium Uranium Extraction process plant and the process included storing spent fuel assemblies; chopping the assembly rods; dissolving the uranium, plutonium, and radioactive products in acid; separating and storing the radioactive wastes, and separating uranium nitrate from plutonium nitrate. In 1959, New York became the only state to accept a federally-initiated plan to form a public-private partnership to reprocess nuclear material and in 1961, the state purchased the land in the Town of Ashford, for what would become the Western New York Nuclear Services Center owned by NFS, a company that continues to this day. The facility operated for six years (1966-1972) and reprocessed about 640 metric tons of irradiated fuel. In 1972, reprocessing ceased and changes in safety and environmental regulations required NFS to undergo a complete licensing review. *In 1976, NFS determined it would cost over \$600 million to comply and decided to leave the site, passing on responsibility for all wastes to the government.*

### **Department of Energy Remediation of the West Valley Site**

In 1981, a federal law, the West Valley Demonstration Project Act, directed the Department of Energy (DOE) to solidify the high-level liquid wastes, clean up and close the site. West Valley Nuclear Services was selected as the prime contractor. Vitrification—mixing the high-level waste with melted glass—was the solidification method which started in 1996 and was completed in 2002. In 1987, DOE agreed to do an Environmental Impact Statement (EIS) on the cleanup and closure of the site. A draft EIS (DEIS) was issued in 1996 with five different cleanup alternatives. In 2001, the DOE split the EIS process into two parts; one on waste management at the processing facility and the other on total site cleanup and closure options. The first part, "Waste Management EIS", was released in 2003. The second DEIS part was released in 2005 on "Site Closure Options." After the 2001 splitting of the EIS process, the Coalition on West Valley Nuclear Wastes took legal action as they believed it was contrary to federal law. The case remains in Federal Court, under appeal and unresolved.

DOE's draft 2005 Draft Environmental Impact Statement (DEIS) on final cleanup and closure options changed substantially from the 1996 DEIS; useful alternatives were eliminated and the estimated costs of cleanup changed radically. *Although there was no recommendation given, the DEIS seemed to imply that leaving the bulk of the waste in the ground was a cost-effective way of remediating the site.* Concerns raised by state agencies appear to have prompted the DOE to work on another DEIS, expected to be released soon. *Currently, this process is one of the longest unresolved EIS procedures in US history.*

### **Cleanup Governed by Mix of Federal and State Policies**

The site cleanup is governed by a complex mix of federal and state laws, regulations and guidance. On the federal level, the DOE is the lead agency, although the Nuclear Regulatory Commission also has some regulatory authority and requirements. There are also state Department of Environmental Conservation cleanup requirements, and the site includes a state-licensed radioactive burial area covered by state procedures. *Under federal law, NYS is responsible for 10 percent of the costs and the federal government is responsible for 90 percent of the cleanup costs at the West Valley Demonstration Project site.* (NY is responsible for all the costs of the State licensed Disposal Area.) NY is the only state that contributes to the cleanup of a high-level radioactive waste site, and to date, the state has contributed more than \$250 million to the project. *In 2007, the NYS Attorney General and the NYS Energy Research & Development Authority filed a lawsuit to ensure that DOE remediated the site in a timely manner, and to seek damages for harm the federal government has caused to the state's natural resources.* The lawsuit seeks to clarify the DOE cleanup responsibility after recent DOE funding cuts. A Federal Judge required the state and DOE to first work to resolve their differences through negotiations which started in 2007.

(Excerpts from Sections 1 and 2 of ***The Real Costs of Cleaning Up Nuclear Waste***)

\*Joshi, S.R. 1988. West Valley - Derived Radionuclides in the Niagara River Area of Lake Ontario. Water, Air, and Soil Pollution. Vol. 37, No 1-2, pp: 111-120.