



ETEC Building Demolition

Summary

DOE is conducting cleanup at the Energy Technology Engineering Center (ETEC), where nuclear energy and premier liquid metals research was conducted from its establishment in the 1960s until operations ended in the late 1980s. ETEC is located in Area IV of the Santa Susana Field Laboratory (SSFL) in Ventura County, California. DOE funded operations at the SSFL from the 1950s until the end of operations.

Cleanup Status: DOE completed demolition of all DOE-owned buildings at ETEC in October of 2021. All building waste has been or will be disposed of at a licensed facility outside the state. With building demolition accomplished, DOE continues to work with the California Department of Toxic Substances Control (DTSC), toward completion of cleanup including remediation of soils and groundwater.

Exposure risk to contaminants: DOE conducts extensive air monitoring and groundwater monitoring throughout Area IV, with oversight from DTSC. Data shows there is no off-site migration of radiological and chemical contamination and no current potential for off-site exposure.

Building Demolition: More than 270 structures were demolished at ETEC over the course of site operations and beyond. This includes major periods of demolition from 1975 through 1977, 1995 through 2005, and 2020-2021. Agreements between DOE and DTSC in 2020 enabled demolition of the final 18 DOE-owned buildings.

2020-2021 Building Demolition

Before demolition work started on the final 18 buildings, screenings were conducted for radiological constituents and hazardous chemicals. Detailed implementation plans and safety procedures were developed, which were reviewed and approved by DTSC. DOE also performed a safety review of the demolition plans provided by its contractor to ensure that the work would be done in a safe manner. Operations were then overseen by DOE/ETEC technical staff and DTSC.

Before demolition began on each building, DOE conducted abatement to remove hazardous constituents, including asbestos, lead-based paint, and oils containing PCBs. Abatement occurred under the oversight of DTSC, using approved methods, and with additional air monitoring to ensure safe handling.

To ensure airborne safety DOE in 2018 installed four air monitors around the site to collect baseline data. DOE monitored air quality throughout the demolition process and will continue to monitor now that demolition is completed.

The final 18 buildings were demolished safely in just over 15 months, while in compliance with health and safety guidelines during the COVID-19 pandemic.

Demolition of the Sodium Pump Test Facility (SPTF)

The final buildings removed comprised the SPTF. The SPTF was made up of two adjacent buildings numbered 4462 and 4463, that were used during operations for testing large pumps for liquid sodium. The nine-story facility, built in 1972, had a red and white crane of its roof that could be seen from various locations in the Simi Valley.



Sodium Pump Test Facility mid-demolition



Sodium Pump Test Facility post-demolition dust suppression

The SPTF buildings were non-radiological facilities. In 2019, prior to the start of demolition, DOE conducted radiological confirmation surveys of the SPTF buildings using Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) methodology, which confirmed their radiologically non-impacted status. The surveys were conducted to check a 2012 EPA preliminary “Class 1” radiological designation based solely on the buildings’ proximity to radiological buildings at the site. The EPA stated: ‘*The research team did not find evidence that radioactive materials were used or stored with the Building 4462 area. However, given its location with the ETEC, the presence of radioactive contamination cannot be ruled out.*’ For context, the nearest radiological facilities were more than a football field away.

Demolition Methods

The SPTF was too tall to use conventional demolition methods of long-reach shears and there were elevated risks to workers’ safety with other demolition techniques. SPTF demolition included the one-time use of shaped charges, directed explosives that concentrate force in a particular direction. This ensures that the structures fall in a predetermined area, minimizing potential for impacts. The use of shaped charges followed strict safety protocols, added a layer of protection for workers, and DOE air monitoring data confirmed that it posed no risk to the community.

A variety of dust control techniques were used in ETEC building demolition. For demolition of the SPTF, the buildings and surrounding areas were pre-wetted for dust suppression. Experts determined that pre-wetting the ground and structure itself was as effective as water cannons for dust control for demolition of this nature. The prolonged use of water cannons also posed additional concerns with water runoff.

In addition to the four perimeter air monitor sites installed before ETEC demolition, three additional local air monitors were positioned in immediate proximity to the SPTF – two units downwind and one unit upwind. DOE monitored air quality prior to and throughout the demolition process and found no increase in particulate matter around the perimeter of the site from any building demolition, including the activity on October 1, 2021.

After demolition was complete, Ventura County Air Pollution Control District (VCAPCD) inspectors reviewed DOE dust control procedures and air monitoring data.

The Safety of Our Community and the Environment is Our Foremost Priority

The Department of Energy (DOE), and its Office of Environmental Management take public health seriously and share the same goal with local community members to complete the safe cleanup of the environmental legacy that resulted from research supporting Cold War-era nuclear energy and space programs.

For additional history and background on ETEC environmental cleanup see DOE’s Final EIS and other background materials at <http://www.ssflareaiveis.com/>



On-site air monitoring