

MAIN PLANT PROCESS BUILDING DEMOLITION



Air and Water Monitoring Results (December 2022)

THE HEALTH AND SAFETY OF EMPLOYEES, THE PUBLIC, AND THE ENVIRONMENT REMAIN OUR TOP PRIORITY.

Quick Facts

The Department of Energy's West Valley Demonstration Project (WVDP) is releasing our *Quarterly Ambient Air and Surface Water Monitoring Summary Report* for the period ending December 2022, the first full quarter of demolition activities at the WVDP Main Plant Processing Building (MPPB).

What Are the Results?

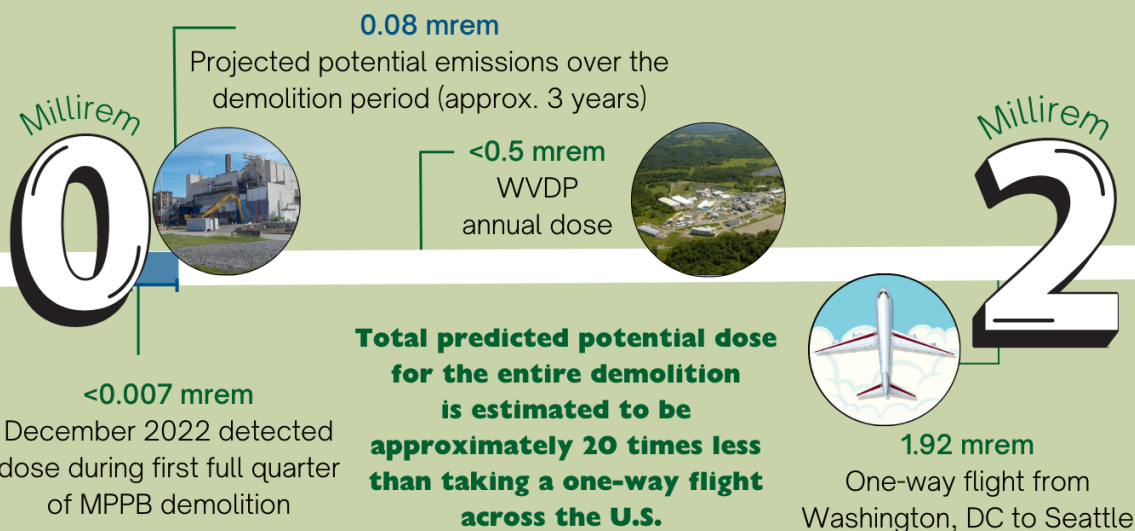
The surface water results are similar to past data, indicating concentrations well below the Derived Concentration Standard (DCS) guideline values demonstrating no harmful effects to human health or the local ecology. Similarly, air monitoring results were lower than predicted for this timeframe based upon the modeling completed prior to the start of demolition. The results demonstrate that the WVDP's planning assumptions and work control methods to minimize potential emissions are effective.

What Does This Mean?

The concentrations reported for the calendar quarter ending December 2022 would equate to a dose less than 0.007 mrem, or a very small fraction of the EPA safe standard of 10 mrem/year. The predicted dose for the entire period of demolition (anticipated to occur over nearly a 3-year period) is less than 0.1 mrem.

The project's ambient air monitoring network is truly state-of-the-art science technology. The recent data results highlight that the system detection capability goes well beyond the EPA-required detection levels. In addition, the WVDP requires its offsite laboratory to achieve a lower detection level than required by the EPA.

The Department's foremost priority remains the health and safety of our workers, the public and the environment. The approach to MPPB deconstruction continues to be performed in a manner that will ensure the protection of workers, the public, and the environment.



Safety First

The estimated potential dose for the more than 30-month demolition is less than 0.1 mrem, more than 100 times less than the WVDP permitted limit from air emissions of 10 millirem/year to the MEOSI.

"MEOSI = Maximum Exposed Off-Site Individual or a hypothetical individual who would receive the highest radiation dose based upon proximity to demolition activities.

The Low Down on Millirems

WHAT IS A MILLIREM?

A millirem is a unit of absorbed radiation dose by a human being.

MILLIREMS AND YOU

The WVDP permitted limit (measured in dose) from air emissions is 10 millirem per year to the Maximally Exposed Off-Site Individual (MEOSI). This means that the WVDP site cannot release an amount of radiation that would cause an individual at the site boundary line to receive a radiological dose above 10 millirem per year.

The estimated potential dose for the more than 30-month demolition is 0.08 millirem (mrem). This represents less than 0.2% of the EPA exposure standard of less than 10 mrem per year and is less than a quarter of the radiological dose one would receive by taking a one-way flight from Washington, D.C. to Seattle, Washington. One would receive a radiological dose of 1.92 mrem from that one-way flight alone.

Radiation in Your Everyday Life

WHAT IS BACKGROUND RADIATION?

Background radiation exists all around us, no matter where we live. Most background radiation occurs naturally. It mainly comes from natural minerals, some of which are even found in the human body.

DOES THIS MEAN THE AVERAGE AMERICAN IS EXPOSED TO RADIATION EVERY DAY?

Yes. In fact, according to the National Council on Radiation Protection and Measurements, the average American is exposed to 620 millirem per year, about half of which comes from natural background radiation.

The Amount of Radiation Absorbed by a Person is Measured in Dose

To ensure the safety and protection of workers and the public, a worldwide body of experts has established basic principles to safely regulate radiation exposure. These global principles date back to 1928 and are part of the International Atomic Energy Agency's (IAEA) Basic Safety Standards for Radiation Protection. The IAEA's standards are published jointly with the World Health Organization, the International Labor Organization, and the Organization for Economic Cooperation and Development's Nuclear Energy Agency.

The Department of Energy and Environmental Monitoring

The Department of Energy works hard to ensure communities near our facilities maintain safe and healthy environments while meeting national and state environmental standards. To do this, DOE extensively monitors the environment in and around the WVDP, by collecting and testing various samples. Samples are collected at different frequencies, in order to assess the impact that site operations may have on public health or the environment.

The Department of Energy is committed to working with tribes, community members, and the state to ensure the safety, health and protection of our workforce, the general public and the environment.

The Department has safely and successfully conducted numerous open-air demolitions throughout the DOE complex and will utilize lessons learned, modeling and other data to ensure the safe demolition of the MPPB. Annual Site Environmental Reports (ASER) can be found at: www.wv.doe.gov

Relative Doses from Radiation Sources

