



U.S. DEPARTMENT OF ENERGY WASTE ISOLATION PILOT PLANT

WIPP 700-C FAN RESTART – INITIAL TEST

QUICK FACTS

WHAT HAPPENED?

On Jan. 31, 2021, the U.S. Department of Energy (DOE) conducted an initial short-duration test, lasting approximately 4 hours, of the 700-C ventilation fan.

The 700-C fan is a large exhaust fan that is used to draw a high volume of unfiltered air from underground.

WHY?

Use of the 700-C ventilation fan will help increase underground airflow for the WIPP workforce until the Safety Significant Confinement Ventilation System (SSCVS) comes online.

WHAT WERE THE POTENTIAL IMPACTS OF THE TEST?

Experts predicted that initial short duration testing of the fan could result in the release of trace levels of detectable radioactive materials into the immediate environment. WIPP officials estimated the release would be approximately 2,000 times below Environmental Protection Agency (EPA) enforced limits.

WHAT DID THE LABORATORY ANALYSIS SHOW?

Of the numerous samples analyzed, only two sample locations showed detectable radioactive materials.

The potential dose was calculated to be 8.11 E-7 millirem (0.000000811) for an individual near the fan outlet. In a year this would equate to a dose 5,000 times lower than the established EPA limit – 10 millirem/year. The dose is orders of magnitude less than the dose one would receive from natural background radiation standing at Sandia Peak in New Mexico for one hour (.008 mrem).

WHAT'S NEXT?

The 700-C ventilation fan will increase airflow to the WIPP underground and improve air quality in the mine. The 700-C fan will only be used during activities that will benefit from more airflow such as mining, installation of rock bolts and maintenance cycles.



USE OF THE 700-C VENTILATION FAN WILL HELP INCREASE UNDERGROUND AIRFLOW FOR THE WIPP WORKFORCE UNTIL THE SAFETY SIGNIFICANT CONFINEMENT VENTILATION SYSTEM (SSCVS) COMES ONLINE.





Crews on scaffolding at the exhaust face of the 700C fan, prepare for the initial bump test in January of 2021.

WHAT'S NEXT? (CONTINUED)

The fan will not be used during underground waste emplacement operations. Waste emplacement operations will continue to be conducted with underground ventilation configured to pass through HEPA filtration prior to being released.

DOE and Nuclear Waste Partnership (NWP) are next scheduled to conduct a "test and balance" that will involve a series of pre-operational activities to ensure the stability of the fan. They will also ensure the underground ventilation system is properly balanced.

SAFETY AND THE SAFETY OF OUR ENVIRONMENT IS OUR FOREMOST PRIORITY

NWP developed a conservative Radiological Monitoring Plan (RWP), which was strictly followed for the duration of the test.

The Carlsbad Environmental Monitoring and Research Center, an independent organization managed by New Mexico State University-Carlsbad, was on hand for the restart of the fan and recorded levels similar to those collected by the Nuclear Waste Partnership.

WHAT IS A MILLIREM?

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

MILLIREMS AND YOU

The WIPP permit allows for 10 millirem per year to the Maximally Exposed Offsite Individual (MEOSI). The WIPP facility cannot release an amount of radiation that would cause an individual at the site boundary line to receive a radiological dose above 10 millirem in a year.

The calculated MEOSI from the 4-hr run of the 700-C fan was 8.11 E-7 millirem. The annual dose equivalent is 5,000 times lower than the established EPA limit of 10 millirem per year.

FOR MORE INFORMATION

WIPP INFORMATION CENTER
 U.S. DEPARTMENT OF ENERGY
 CARLSBAD FIELD OFFICE
 P.O. BOX 2078, CARLSBAD, NM
 88221
 1-800-336-WIPP (9477)

RELATIVE DOSES FROM RADIATION SOURCES

