

# Radiation levels fall after nuclear waste leak in New Mexico

US Department of Energy prepares to re-enter the WIPP repository to determine cause.

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DOE WIPP

The WIPP underground facility stores drums of radioactive material from nuclear weapons labs.

Radiation levels within and around the United States' only deep-underground nuclear waste facility continue to drop, nearly two weeks after a mysterious leak triggered alarms and shut down the facility, according to data released this week by the US Department of Energy and an independent air-monitoring group.

The sharp spike and subsequent decline in radiation are suggestive of a single release of contamination on 14 February at the Waste Isolation Pilot Plant (WIPP) near Carlsbad, New Mexico. It is the first reported leak at the WIPP, which is a permanent repository for nuclear waste that has been carved out of ancient salt beds 655 metres underground. Contamination escaped the facility, but officials say that the levels are low and pose no health threat. Because no one was underground when the radiation alarms went off, it remains unclear what caused the release.

One possibility is that a large chunk of salt fell from the ceiling of the repository and damaged one of the metal storage drums, says Russell Hardy, director of the Carlsbad Environmental Monitoring and Research Center at New Mexico State University, which independently monitors radiation at the site. "But until they get underground and find out what happened, it's really all just speculation at this point," he says.

The WIPP opened in 1999 and has since taken in more than 80,000 cubic metres of material – including work gloves, tools and machinery – that is contaminated with radioactive elements such as plutonium as well as hazardous chemicals. On 16 February, two days after the initial release, Hardy's centre detected plutonium and americium contamination at an air-monitoring station 1 kilometre away from an exhaust shaft leading from the facility. The centre's latest results, released on 25 February based on samples collected four days after the leak, identified no plutonium and sharply lower levels of americium. Hardy says that the centre's data align with reports from the US Department of Energy. The agency estimated that a person at one of its above-ground monitoring stations would have sustained a cumulative radiation exposure of 1 millirem – ten times less radiation than that delivered during a typical chest X-ray.

Although no data were released from real-time radiation detectors within the facility this week, the Department of Energy says that radiation levels are dropping and seem to be limited to one section of the facility. Energy Department spokeswoman Deb Gill says that

the agency and its contractors – an industry consortium led by the San Francisco-based URS Corporation – are still working on a plan to re-enter the facility.

The leak came nine days after an apparently unrelated incident in which a vehicle caught fire underground. The Department of Energy had already appointed a panel to investigate the fire, and that panel will now investigate the radiation leak as well, Gill says.

Hardy says his group is still analysing samples taken directly from the exhaust shaft – both before and after the air is filtered – and plans to release the results as early as today. The findings will determine whether the air filtration system, which is designed to capture 99.97% of the radiation, functioned properly. “We’ve never had to test it under live conditions,” Hardy says.

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