

Leak brings safety of Hanford nuclear site into question

August 22 2012, By Kim Murphy

As part of the biggest, costliest environmental cleanup in the nation's history-disposing of 53 million gallons of radioactive waste at the Hanford nuclear reservation in Washington state-one thing was supposed to be sure: Toxic waste stored in sturdy, double-wall steel tanks wasn't going anywhere.

That reassurance has been thrown into question with the discovery of a three-foot-long mound of radioactive material between the inner and outer steel walls of one of the supposedly safe [tanks](#).

"We're taking it seriously, and we're doing an investigation so we can better understand what it is," Department of Energy spokeswoman Lori Gamache said Tuesday.

The discovery marks the first time material has been found outside the inner wall of one of the site's 28 double-shell tanks, thought to be relatively secure interim storage for the radioactive material generated when Hanford was one of the nation's major atomic production facilities. It opened in 1943 and began a gradual shutdown in 1964. Cleanup started in 1989.

The \$12.2-billion cleanup eventually aims to turn most of the Hanford waste into glass rods at a high-tech vitrification plant scheduled to be operational in 2019, assuming the formidable design and engineering hurdles can be overcome.

In the meantime, plant engineers have been transferring waste from the facility's 149 leaky, aging single-wall storage tanks into double-shell tanks for safekeeping. The double-wall tanks were expected to last another 40 years.

More than 1 million gallons of waste have leaked from 67 single-wall tanks into the surrounding soil over the years.

"There's been this presumption that the double-shell tanks at least are sound and won't fail, and they'll be there for us," said Tom Carpenter of the [advocacy group](#) Hanford Challenge. Several days ago the group obtained a memo from the cleanup site detailing the discovery of the mysterious substance.

"This changes everything. It is alarming that there is now solid evidence that Hanford double-shell has leaked," Carpenter said in a separate statement on the discovery.

The 42-year-old tank, known as AY-102, holds about 857,000 gallons of radioactive and other toxic chemical waste, much of it removed several years ago from a single-shell storage tank. Workers who relocated the material fell ill simply from inhaling the fumes, Carpenter said.

Department of Energy officials said no material has leaked outside the outer steel wall or the concrete casing that surrounds the structure, and there is no present hazard to workers or groundwater.

They are trying to determine whether the material leaked from the inner tank or oozed into the space between the two walls, known as the annulus, from a nearby pit.

"There's no evidence of it leaking the liquid from the inner shell right now," Gamache said.

The material - a mound 2 feet by 3 feet by 8 inches-is dry and doesn't appear to be growing. It was discovered during a routine video inspection of the annulus, conducted last month from a viewpoint not normally used.

The possibility that it could be overflow from a nearby pit arises because a pipe runs into the annulus from the pit, Gamache said.

But Carpenter, who has talked extensively with workers at Hanford and was briefed on Tuesday by one of the Department of Energy's senior officials at the tank farm, said he believes the evidence is strong that there was a leak.

"I know Hanford would like it not to be so," he said. "But the people I'm talking to at the Hanford site say no, it really does look like a leak."

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