

# Activists criticize evaporation of radioactive waste water at Pilgrim plant

By [Mike Damiano](#) Globe Staff, Updated August 25, 2023, 10:00 a.m.



Activists discovered this month that Holtec had evaporated radioactive waste water and discharged the resulting vapor through the plant's stack (white tower shown on left). JOHN TLUMACKI/GLOBE STAFF

For more than a year, activists and residents on the South Shore have tussled with Holtec, the owner of the Pilgrim nuclear power plant, over how the company should dispose of 1 million gallons of radioactive waste water stored inside the shuttered facility in Plymouth.

This month, a new front in their battle opened as activists accused Holtec of improperly evaporating the waste water and releasing the resulting radioactive vapor into the open air. Holtec acknowledged installing heaters in the waste water pool, which sped up evaporation, but a spokesperson insisted that the amount of water evaporated was small and the procedure was part of the normal course of dismantling the plant.

The activists made the accusation early this month, in emails to Holtec's federal regulator, after an inspection report revealed the heaters' installation and determined that their use was appropriate. The dispute went public this week when an anonymous letter writer, claiming to have inside knowledge of the plant, said the installation of the heaters was a ruse, a means to dispose of the waste water through evaporation without first notifying the public.

But activists viewed the unannounced evaporation as the latest example of what they regard as the company's lack of transparency.

"This is just another statement of the degree to which Holtec is disinterested in being a constructive part of a community process," said Andrew Gottlieb, executive director of the Association to Preserve Cape Cod.

Neil Sheehan, a spokesperson for the Nuclear Regulatory Commission, which oversees the plant, said that radioactive emissions from the evaporation "were well within federal limits," according to data collected by Holtec and reviewed by federal inspectors.

Holtec is responsible for dismantling Pilgrim, which sits on the shore of Cape Cod Bay, and disposing of the remaining radioactive waste produced during the plant's nearly 50 years of operation. The waste includes spent nuclear fuel rods and approximately 1.1 million gallons of irradiated waste water.

The water has become the subject of a bitter dispute between the company and surrounding communities. Originally, Holtec had hoped to treat the water on site by removing some radioactive isotopes and then discharging it into Cape Cod Bay. Activists

and residents fiercely opposed that, claiming the water would endanger public health and the local economy.

In July, the Healey administration [moved to block](#) the discharge into the bay, possibly foreclosing that option and forcing Holtec to consider alternatives.

The Florida company has openly discussed two other ways to get rid of the waste water: truck it out of state, which is expensive, or evaporate it on site with heaters, which activists oppose.

On Aug. 4, the Nuclear Regulatory Commission disclosed that Holtec had for months used heaters immersed in the waste water pool that accelerated evaporation. (The inspection was part of the agency's regular oversight of the facility.)

Then, on Monday, activist Diane Turco received a letter from an anonymous whistleblower who described the heaters as "evaporators" designed to "boil-away" the waste water. The letter, which was shared with the Globe by Turco, was also sent to John Priest, director of the Massachusetts Department of Public Health's Radiation Control Program.

The Globe has been unable to identify the letter writer. The writer does not claim to be an employee of the plant but claims to have knowledge of internal Pilgrim documents. Holtec did not respond to a question about the letter's authenticity.

A state spokesperson said the Department of Public Health and the Department of Environmental Protection are reviewing the allegations in the letter. Sheehan, the NRC spokesperson, said the agency is reviewing the letter.

Holtec had previously disclosed using the heaters to the NRC and the agency had inspected the operation.

"The inspectors determined that there was a reasonable justification for adding electric submersion heaters to the flooded reactor cavity," NRC regulators wrote in the Aug. 4



report.



The Pilgrim nuclear reactor rises in the distance at the end of a secured service road. JOHN TLUMACKI/GLOBE STAFF

Patrick O'Brien, the Holtec spokesperson, said Wednesday there were two reasons for installing the heaters last winter. First, the plant was too cold for workers and heating the waste water also heated the air. Second, heating the water helped accelerate the process of drying out equipment removed from the waste water pool so it could be disposed of sooner.

O'Brien said Holtec had not measured how much water evaporated between last winter, when the heaters were turned on, and last month, when they were shut off. O'Brien and Sheehan said that the water vapor exiting the plant was measured weekly to ensure its radioactive content complied with federal safety requirements.

Sheehan said the NRC does not know how much water was evaporated.

Several air pollution experts told the Globe that emitting the radioactive water vapor into the atmosphere would cause significant dilution very quickly, meaning the health risks to the public would likely be very low or negligible.

Doug Brugge, professor and chair of public health sciences at the University of Connecticut, estimated that “sitting in commuter traffic and breathing in exhaust” would pose a significantly higher health risk than living near Pilgrim while the water vapor was emitted.

But he added that it would be impossible to assess the risk definitively without knowing how much vapor was emitted, the concentration of radioactive material within it, and how the winds carried the vapor.

Petros Koutrakis, professor of environmental studies at Harvard, said, “People will be exposed to radiation. However, I cannot tell how much. It is important that rigorous environmental monitoring is done during the decommissioning of the plant.”

O’Brien said the emissions were “well below safe federal limits,” adding that waste water has been continuously evaporating at the plant since it began operating.

Holtec pays for the Pilgrim decommissioning project largely through a trust account funded by a surcharge on customers’ electric bills during Pilgrim’s operational years. The trust fund had approximately \$1 billion when Holtec bought Pilgrim in 2019, assuming the responsibility for cleaning up the site and also gaining access to the fund.

When money is left over in decommissioning trust funds after a cleanup is completed, the company responsible for the project is sometimes able to keep it.

Gottlieb and other activists allege Holtec is trying to save money during the cleanup — by avoiding the expensive option of trucking waste water to a disposal facility — to net a larger surplus at the end.

“In my mind, they are doing what is the least costly option for them consistently across all practices,” he said. “I think this is a monetary decision on their part.”

O’Brien said Holtec has “a fiduciary duty to ensure the trust fund is adequate” to finish the cleanup.

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