

Spill of landfill leachate into stormwater pond leaves Coventry locals concerned

Vermont Public | By Abagael Giles

Published March 8, 2024 at 4:38 PM EST



Nina Keck / VPR

Casella Waste Systems operates the only landfill in Vermont, in Coventry.

Almost 3,000 gallons of landfill leachate containing toxic chemicals spilled into a stormwater pond at Casella's Coventry landfill late last month, the company reported.

The leachate spilled from a modular machine Casella is testing as a way to remove certain toxic chemicals from its leachate. The machine was being operated under a tent, in a pit lined with heavy-duty plastic and surrounded by berms.

Leachate is the wastewater created when rainwater percolates through a lined landfill, and it's collected in a series of holding tanks. Because it runs through our trash, it contains toxic chemicals.

Casella has been operating a system in Coventry to remove PFAS, or so-called "forever chemicals," from landfill wastewater using a new technology known as

“foam fractionation.” The chemicals are very difficult to destroy — and the machine essentially uses bubbles to concentrate them in a foam that Casella then injects into concrete and buries back in the landfill.

The leachate, with less PFAS in it, then gets shipped to wastewater treatment plants in Plattsburgh and Montpelier.

Casella is still investigating what happened, but the company filed a report with state regulators that says the spill happened because the foam fractionation system malfunctioned.

Casella says the system is rigged with an alarm and two “flood switches” that should have disabled the machine when it started to leak.

“All the measures failed to alarm and engage, despite weekly observation and maintenance to ensure proper functioning,” Casella wrote in its report.

Casella and state regulators say the spill, and all contaminated material, was ultimately contained onsite and returned to the landfill. And state officials say there’s no risk to public health or the environment.

But the Conservation Law Foundation, which has been critical of state oversight of the project, said the spill shows how insufficient regulation can lead to environmental risk.

“This is a great example of what community members were most afraid of,” said Conservation Law Foundation attorney Nora Bosworth.

Because of the spill, Casella has halted the project until all their permits are finalized, the problem that led to

the spill is diagnosed and fixed, and it can move the PFAS operation from a tent to a building with stronger controls.

How the leak progressed

Casella says a third party vendor discovered the overflow while visiting the facility a little after 7 a.m. on Saturday, Feb. 24. The Department of Environmental Conservation says they were notified that morning.

About 20 minutes later, Casella says they had staff onsite to stop the flow of leachate into the system, and by 8:30 a.m., they say cleanup was well underway.

We're as disappointed as anybody that this happened.

Jeff Weld, Casella spokesperson

A total of 8,699 gallons of leachate spilled from the machines, which were located under a tent in a large ditch lined with a material used to seal landfills. Casella says the liner caught about two-thirds of that liquid, but 2,845 gallons spilled over the berm surrounding the system and into a nearby stormwater pond.

The company brought in a vacuum truck to suck up the entire pond, and fed that water back into the landfill leachate holding tanks. Casella says they then removed rock and soil from the stormwater pond, rinsed it, and placed it back in the landfill.

Regulators at the Department of Environmental Conservation confirmed that Casella reported the spill

first thing Saturday morning, and communication continued from there.

DEC staff arrived at the site of the spill, confirmed the situation was contained and corroborated Casella's account of the events on Monday, March 1.

Casella spokesperson Jeff Weld called the event deeply disappointing.

"We're as disappointed as anybody that this happened, and for a number of reasons," Weld said. "Obviously any kind of equipment malfunction is a cause for concern."

Why was the project in a tent?

PFAS in landfill leachate is a nationwide problem. The chemicals are prolific in trash because they are nearly ubiquitous in consumer goods like clothing and appliances, where they're used for durability, water proofing, as flame retardants and to prevent stains.

Vermont — like other states — is waiting for guidance from the Environmental Protection Agency about how to regulate the chemicals, which have been linked to cancer, endocrine disruption, heart disease and other health impacts. The federal agency has essentially said no level of exposure is safe for human health in drinking water.

Casella says Coventry is one of the first places in the United States where this removal technology is being tested.

Regulators with the state allowed Casella to start operating the project before rules for running it were finalized via an amendment to Casella's existing

federal pretreatment permit — and before the state issued an air quality permit amendment for the project.

Additionally, they allowed Casella to operate the modular system under a tent before the building designed to house it, with a closed loop drainage system to capture spills, was complete.

Josh Kelly of the DEC's Solid Waste Division said this kind of spill would have been contained in the future closed loop building.

"The building that is built has a better collection system for a leak onto the floor," he said. "There are drains built into the floor and a tank to contain leaks, so it's better than that tarp system I described to you. So the plan is to have a better system for the future."

Until that better system is ready, Kelly said regulators required Casella to use the berm system with the welded liner and thought that would be sufficient to prevent a leak.

Weld, the Casella spokesperson, said they were confident the system was safe to operate under the tent because it is designed to be portable and the machines were encapsulated within shipping containers.

Pete LaFlamme, who heads the DEC's Watershed Management Division, said in their view, the benefits of starting early outweighed the risk.

"We were pleased with the results they were getting in terms of PFAS removals, in running the system,"

LaFlamme said. "Nobody foresaw, you know, the accident that did occur."

Weld said Casella has processed close to 7 million gallons of leachate so far and their preliminary testing suggests they've been successful in removing most of the five PFAS Vermont regulates in drinking water. Casella presented some of those results to the Montpelier City Council, but declined to share the raw data with Vermont Public, at this point.

He points out that all that PFAS was previously going straight into the municipal wastewater plant in Montpelier, which releases into the Winooski River and does not remove PFAS.

Bosworth, of the Conservation Law Foundation, says the Department of Environmental Conservation should have required Casella to wait to start the project until after its permits were finalized.

CLF and other groups have also been critical of the foam fractionation method Casella is using to extract the PFAS, saying it doesn't capture a broad enough swath of the chemicals. They've advocated for regulators to require Casella layer technologies to remove as much PFAS as possible.

"Leachate is super toxic and full of forever chemicals and other horrible chemicals. And there has not been proper oversight of this system from the start," Bosworth said. "The department hasn't taken due care to make sure that the system is safe and effective."

What's next?

Casella has paused the foam fractionation system pilot program until the amendments to its federal pretreatment permit and air quality permit are finalized.

The pretreatment permit amendment is being reviewed now by state regulators, who have received 260 pages of comments.

Amy Polaczyk leads the Wastewater Management Program at DEC, and says they were already planning to amend the draft permit to bolster protections against a spill based on the comments they received.

"We had a lot of public comment that was concerned about treatment in the Lake Memphremagog watershed just for this potentiality," she said.

The air quality permit amendment is expected to go to public comment in the coming weeks, and regulators say Casella's permit application proposes filtering the air that comes out of the system through two 55-gallon drums of granulated activated carbon.

State regulators believe the granulated activated carbon likely captures any PFAS emissions that make it into the air, said Rachel Stevens, associate general counsel for the Agency of Natural Resources.

But some in Coventry and in the environmental community continue to have concerns, particularly due to the site's proximity to the Black River, which flows into Lake Memphremagog.

Peggy Stevens with DUMP lives nearby, and says she doesn't fault Casella for the spill, and she commends them for trying to address the problem of PFAS

flowing into the Winooski — which her organization has grave concerns about.



Kyle Ambusk / Vermont Public

A view of the Winooski River in Middlesex as of 6:30 p.m. Tuesday, July 11.

But she feels regulators should do more to strengthen the pilot program.

“I want to be very clear that our issue is not with Casella,” Stevens said. “I do not see the Agency [of Natural Resources] taking the stand that it needs to take in order to protect the environment, the public.”

Stevens would like to see the facility staffed 24/7, which Casella’s permit does not require right now. Casella’s Jeff Weld confirmed in an email that no staff members were onsite when the leak occurred.

Casella is continuing its investigation into what happened and testing for signs of leachate contamination in the surrounding area, and will be required to report its findings back to DEC.

In the meantime, regulators say they will be looking at ways to amend the outstanding draft permits to ensure that there are greater redundancies — and facility staffing could be one issue they revisit.

Kelly says for now, regulators are focused on the cleanup, but the spill was a violation of Casella's solid waste permit and regulators could take enforcement action against them in the future.

Kelly said it's likely this won't be the last time a new technology like this is tested in Vermont, as the state tries to stem the flow of PFAS chemicals into its rivers and lakes — something regulators say involves some level of risk.

"This is an unfortunate event with a leak that occurred," said Kelly. "We as a society are trying to figure out systems to treat for PFAS. And they're new. They're really new."