

# The Ithaca JOURNAL

## Document details Cornell waste spill

### Overflow ran at least 14 hours, letter shows

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Wastewater from the animal carcass digester at Cornell University's [College](#) of Veterinary Medicine overflowed for at least 14 hours last Friday night into Saturday afternoon before the spill was discovered.

A Dec. 12 letter obtained by The Journal from a Cornell engineer to the state Department of [Environmental Conservation](#) and the Ithaca Area Wastewater Treatment Facility detailed a series of errors that resulted in the spill into sanitary and storm sewers. On Feb. 19, another series of errors at the facility also dumped treated vet waste into Ithaca sewers.

Paul Jennette, biosafety engineer at the vet school, explained in the letter that Cornell's most current spill was undetected until an employee of the Waste Management Facility's contractor noticed a problem Saturday afternoon. The employee saw water running out the door and contacted Cornell personnel, according to the letter. A few minutes later, the letter states, Cornell's on-duty shift [mechanic](#) shut down the digester at 2:19 p.m. Saturday.

Cornell was unable to provide additional information on the spill Thursday.

The discharge occurred during a "routine run of the digester" that started Friday morning, according to the letter. The digester completed its minimum treatment parameters of six hours at 300 degrees Fahrenheit.

Though the letter did not state the [exact](#) time the overflow started, it said the digester was going through its "typically over 12-hour run automatically when the discharge began Friday night." A statement from Cornell this week said about 92,000 gallons were involved in the spill.



Cornell University Biosafety Engineer Paul Jennette talks about the operation of the alkaline hydrolysis digester, lower left, which is in the final stages of testing in the College of Veterinary Medicine's new Waste Management Facility. The digester works by combining extreme heat, pressure and chemical digestion to dissolve animal carcasses. (SIMON WHEELER / Staff Photo)

The digester combines extreme heat and pressure with chemical digestion to dissolve animal carcasses into two components: a liquid, known as hydrolysate and sterilized bone fragments.

The letter said the overflow was due to a series of errors:

- \* A digester equipment malfunction.
- \* A fault in the digester manufacturer's programming that allowed the process to continue to the next phase of the digester cycle, in which clean water is pumped into the digester at the rate of 90 gallons per minute.
- \* A failure of the digester's high-level sensor that did not detect the liquid level in the digester exceeding the upper limit.
- \* A second fault in the digester manufacturer's programming that did not stop the filling after the level in the digester reached its maximum level.

The discharge contained less than 1,600 gallons of hydrolysate effluent diluted with up to 90,000 gallons of potable water, according to the university. The majority drained into the Ithaca Area Wastewater Treatment Facility and a smaller portion went into the storm water collection system that flows into Fall Creek and Beebe Lake, according to the school.

The wastewater flowed out the relief vent on top of the digester, into heat ventilation and air-conditioning ductwork and out onto the facility's upper-level floor. The facility's floor drains, which discharge to the sanitary sewer system, were overwhelmed by the high flow rate and the wastewater flowed into the facility's ash refuse container on the lower level, according to the letter.

The wastewater filled the refuse container and then flowed onto the lower-level floor. A floor drain was overwhelmed and the water flowed out the dumpster room's door and into a nearby storm drain, the letter stated.

That could have been prevented, said environmental advocate Walter Hang, president of Toxic Targeting in Ithaca.

"That is just plain bad design. Usually, a facility is designed in such a way that the overflow cannot exit the building and get into a storm drain. Usually, there is a management system in place that, God forbid there is a release, it goes to a separate area even if no one is there. This is obviously a complete fiasco," Hang said.

In fact, Hang said, it could have been a lot worse.

"It is lucky that the person happened along and noticed the torrent of water exiting the building. That just identifies that this system is obviously not ready for full-scale operation. We now know that no one was even watching the facility operate. I mean, that is just a shocking revelation," he said.

The manufacturer has corrected the error and modified the program to add safety checks, according to a statement from Cornell. The feature that allowed the digester to drain and fill automatically has been removed. Those functions will no longer happen without action by an on-site operator, the statement read.

There was no biological hazard associated with the release, the university stated.

In addition, the digester's air vent outlet will be rerouted to a containment area so that overflow can no longer directly enter the storm or sanitary sewer systems.

These changes are being tested under the observation of Cornell personnel and the construction manager for the State University Construction Fund, which financed the project.

Samples of wastewater collected from the release are being analyzed by an independent laboratory for parameters requested by the DEC and Ithaca Area Wastewater Treatment Facility.

This is the second "accidental" discharge from the digester. A malfunctioning valve at the vet school's waste management facility sent 4,300 gallons of digested animal carcass waste into the city sewer system on Feb. 19.

Discharge from the machine is not yet approved to go to the Ithaca facility. A final plan for accepting the wastewater from the machine is in the works. Now, waste is trucked out of the county for processing.