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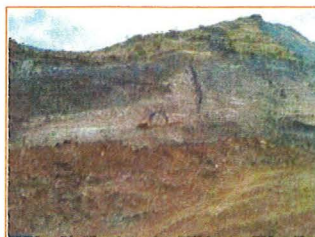
## After Landfill Spill, Lots of Questions, Few Answers

By Michael Levine and Adrienne LaFrance | 01/22/2011

It's now been a little more than a week since the operators of Waimanalo Gulch Sanitary Landfill, facing rising waters and pounding rain, sent a torrent of stormwater containing garbage and medical waste out into the ocean off of Ko Olina on Oahu's Leeward Coast.

The episode — which resulted in syringes and vials of blood and urine washing onshore, closing some beaches — raises one obvious question: How could this happen?

One answer is the weather. The worst three hours of last week's rain were in excess of a 200-year storm event for the rain gauge closest to Waimanalo Gulch. But the weather isn't enough reason to give landfill operators a pass.



Michael Levine/Civil Beat

"What happened should not have happened," Health Department Deputy Director Gary Gill told the Hawaii Senate's Ways and Means Committee this week. "The rains flooded the landfill — all of that water is supposed to be diverted around the landfill ... The landfill has been expanded a number of times and the water diversion system has not kept up with expansions."

Permit conditions required landfill operators to have geomembrane sheets and pumps on hand during construction of the diversion channel. It's unclear whether those preventive measures were used or ineffective.

Health officials said the medical waste that ended up in the ocean didn't pose any serious health threat. Yet one of the strange aspects of this story is that no single agency can claim responsibility for oversight of medical waste. In fact, three local entities each point to the other as responsible.

If there was wrongdoing, it remains to be seen whether there will be any penalties.

The federal Environmental Protection Agency, which sent staffers to Honolulu to help coordinate the clean-up, is still focused on the aftermath.

"If there's going to be any enforcement, we don't know yet," EPA regional spokesman Dean Higuchi told Civil Beat. "The concern right now is to make sure the clean-up of any waste on the beaches is done, that the landfill has capacity to handle any rain that appears in the future. To make sure it doesn't happen again: That's the bottom line."

The general manager of Waste Management, the company that operates Waimanalo Gulch and other landfills across the country, has declined to answer Civil Beat's questions thus far. A spokesman said the company is focusing on clean-up and re-opening the landfill as bulky items pile up on sidewalks islandwide.

Waimanalo Gulch landfill remains closed. City officials say it won't open until Thursday at the earliest. Two Honolulu City Council committees are hosting a joint hearing Monday morning to address the situation. Until then, here's what we know so far — and what we're waiting to find out.

### What, Exactly, Was Discharged?

**What we know:** The Department of Health's Clean Water Branch — acting on behalf of the U.S. EPA and following the terms of the Clean Water Act — issued a National Pollutant Discharge Elimination System permit to the city's Department of Environmental Services in August 2010.<sup>1</sup>

The permit sets limits on the concentrations of more than a dozen chemicals that can be released in a discharge of stormwater — for example, 10 milligrams of ammonia per liter.

Read the full National Pollutant Discharge Elimination System permit [here](#) [pdf].

**What we don't know:** The full content of the discharge is unclear. The Clean Water Branch says it has tested for bacteria at ocean sites, and that samples of stormwater taken at the landfill before the discharge were turned over

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to the Department of Health. What would happen if the discharge included more chemicals than permitted and contributed to a violation of applicable water quality standards?

**Why Is The Public Being Told Not To Worry About Infectious Medical Waste?**

**What we know:** Infectious waste isn't allowed in the landfill in the first place. State law requires all medical waste to be sterilized before it reaches Waimanalo Gulch.

"In accordance with state solid waste regulations, the landfill should not be accepting infectious waste," Lene Ichinotsubo, chief of the Health Department's Solid and Hazardous Waste Branch, wrote in an e-mail. "Generators of infectious waste, such as hospitals and clinics, are required to treat infectious waste prior to taking them to the landfill."

A spokesman for the company that operates the landfill, Waste Management, said the company reviews federally mandated classification of medical waste provided by the hospitals that generate the waste to make sure it meets requirements.

"Federal regulations require generators of medical waste to characterize their waste and certify that it has been properly treated prior to disposal," Keith DeMello, Waste Management's spokesman, wrote in an e-mail. "The generators' waste profiles are then reviewed and approved by WM."

Honolulu Managing Director Doug Chin said Waste Management works with a company called [Hawaii Bio-Waste Systems, Inc.](#), which treats medical waste at high temperatures and high pressure to sanitize it.

The process is called autoclaving, and Hawaii Bio-Waste provides it for hospitals and medical centers like Queens Medical Center, Kaiser Permanente, Tripler Army Medical Center, Kapiolani Women's and Children, according to the company's website.

"Medical waste goes through three things," said Markus Owens, spokesman for the city's Environmental Services Department. "The bill of lading, which is kind of like a waste characterization of saying what's in there, non-hazardous manifest and a certificate of sterilization."

Health Department spokeswoman Janice Okubo said the landfill provided proof the medical waste went through the appropriate process.

"We asked the landfill for a chain of custody type of documentation so we could verify that the materials were sterilized before they were accepted," Okubo told Civil Beat. "They do have to document where they come from."

As such, officials report the threat the vials of blood pose is comparable to many other kinds of litter.

"There's no question that the debris is gross," Chin told Civil Beat. "It's not something that anyone would want to encounter, and yet, at no time has the Department of Health — or the EPA for that matter — ever determined that the medical waste was anything other than debris."

**What we don't know:** Civil Beat is still working on tracking down the documents that officials say verify the medical waste is noninfectious.

Waste Management's general manager, Joe Whelan, has declined Civil Beat's repeated requests for interviews this week. Officials at Hawaiian Bio-Waste Systems have also declined to respond to voicemails and other interview requests.

**When It Comes To Medical Waste, Who Is In Charge?**

**What we know:** City officials, State Department of Health officials and the Waste Management spokesman all agree that medical waste must be treated before it reaches the landfill. But there appears to be confusion about who is in charge of oversight. And it appears that the government relies on the good word of those it's supposed to regulate that what they're putting into a landfill is what they say it is.

"We can only go with what the Department of Health tells us," said Owens, spokesman for the city's Environmental Services Department, when asked about oversight. "They're the ones who know what has to be in place for the permit, to accept this type of waste."

But State Department of Health officials explain that while they grant permits, they don't track compliance.

"We don't screen it because the state does not operate the landfill," said Ichinotsubo, chief of the Health Department's Solid and Hazardous Waste Branch. "We're the regulators, the city and the landfill are the operators."

Meantime, the landfill operator refers questions about oversight back to the state.

"Regarding the documentation of medical waste, I do need to refer you back to the DOH," DeMello, Waste Management's spokesman, wrote in an e-mail.

Asked about this merry-go-round of accountability, Honolulu Managing Director Chin said he believes there is a layered approach to oversight.

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"Verifying and confirming that the waste is in fact sterilized is very, very important," Chin told Civil Beat. "That's what the Department of Health is relying on when they're permitting the landfill to take the waste. It's what we're relying on for our understanding that the debris discharged out to the ocean and washing up on the beaches is sanitized. What I'm understanding is the certification they go through is not just a piece of paper."

**What we don't know:** Who is conducting inspections to verify medical waste is properly handled? State law requires the landfill to submit a report on medical waste every year in July, but multiple requests to officials with the city, state and Waste Management for that document were unsuccessful.

### Was Rain Just Bad Luck?

**What we know:** The city is supposed to update its stormwater safety plan before changing the landfill.

The National Pollutant Discharge Elimination System permit requires that the city revise its Storm Water Pollution Control Plan for all proposed modifications to the facility — including the expansion that was approved by the Land Use Commission in October 2009.

The most recent version of the Storm Water Pollution Control Plan was dated January 2009 but was received in June 2010, according to Joanna Seto, supervisor of the Clean Water Branch's Engineering Section. That document does not include the off-site run-on bypass or landfill expansion best management practices required by the National Pollutant Discharge Elimination System permit, but a subsequent Surface Water Management Plan was received by the Health Department in August 2010.

Both plans reference management practices designed to handle a 25-year, 24-hour storm event.

Kevin Kodama, a senior hydrologist with the National Weather Service's Honolulu Forecast Office, told Civil Beat the rain gauge closest to Waimanalo Gulch measured 10.3 inches of precipitation between approximately 6 p.m. on Jan. 12 and 6 p.m. the following day. That total exceeded the 25-year, 24-hour rain event for that gauge, according to a [table of precipitation frequency estimates](#), but falls short of a 50-year, 24-hour event.

Rain was more intense for some shorter periods. The worst six-hour peak of 7.22 inches was in excess of a 100-year event and the worst three-hour stretch of 6.23 inches was in excess of a 200-year event, Kodama said.

"They got hit pretty good," he said.

The Palehua Fire Weather Station gauge in question received more rain during the storm than any other gauge on the island. Owned by the state Department of Land and Natural Resources Division of Forestry and Wildlife, the gauge is located about two miles mauka (north-northeast) of the landfill. While not all of the rainfall at that location necessarily ended up in Waimanalo Gulch, the data indicates that region of the island was hit particularly hard by the storm.

Read the Storm Water Pollution Control Plan [here](#) [pdf] and the full Surface Water Management Plan [here](#) [pdf].

### Did the Landfill Adhere to Permit Safety Requirements?

**What we know:** In addition to the permits and plans administered by the Department of Health's Clean Water Branch, another division of the department has a role in the operation of all landfills: the Solid and Hazardous Waste Branch.

After the expansion was approved in late 2009, that branch in June 2010 approved an application to modify and renew the landfill's Solid Waste Management Permit. Among the permit conditions is an entire section dedicated to managing surface water.

Requirements included a western bypass channel and a "drainage system of pipe and swale conveyances running along the eastern side of the landfill." During construction of those systems, when there is no means to convey water around the landfill, the landfill operators were instructed to pre-stage six-millimeter or thicker geomembrane sheets, pumps and other equipment to control and direct surface water.

Before starting construction on the new landfill cells, operators were instructed to determine the amount of geomembrane sheeting and pumps necessary to do the job, and told to update drainage system drawings to accommodate runoff from the new cells as they were being constructed.

Read the full Solid Waste Management Permit [here](#) [pdf].<sup>2</sup>

**What we don't know:** There are numerous questions beyond simple compliance with the permit conditions. Here are the questions Civil Beat asked DeMello, the Waste Management spokesman:

- Does Waste Management believe it complied with all permits and regulations?
- When did Waste Management start construction on the diversion channel? Was there a lag between the issuance of the land use permit in October 2009 and work on the diversion channel? If so, why?
- Was the goal always to have the channel construction completed around the end of January, or did Waste Management originally target a completion date before the start of the rainy season? If the schedule changed, why?

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- Were there previous diversion channels that were rendered obsolete by the recent expansion, or was this the first diversion channel of its kind at the facility?
- Will additional channels be necessary if the landfill's life is extended beyond July 2012?
- Are stormwater runoff issues compounded as the landfill nears capacity?

### Do Other Cities Share Honolulu's Approach?

**What we know:** To begin to understand how Honolulu compares to other municipalities, we looked to another oceanfront county: San Diego. Turns out, the California border town is a pioneer when it comes to waste management.

As in Hawaii, [California law](#) requires medical waste to be treated before it goes in a landfill, and requires certain kinds of medical waste — like body parts — to be incinerated.

"It could be a dental office, a veterinary office, a medical office, a large hospital ... If you generate medical waste, you have to basically render it safe before it ends up in a landfill," said Maryam Sedghi, supervising environmental health specialist for San Diego County's Hazardous Materials Division. "Other waste we have, like let's say pathology waste, in that particular case, you can't autoclave that and throw it in a landfill, you pretty much have to send that to an incinerator."

But many of the similarities between how Honolulu and San Diego manage disposal of medical waste end there. Because California is such a big state, some county-level agencies obtain the authority — through what's called the [Certified Unified Program Agencies](#) — to oversee and enforce some laws.

For San Diego, it means Sedghi and her colleagues closely track medical waste on its path from hospitals to landfills. In other words: it's clear who's in charge. There's no self regulation, the way there is in Hawaii.

"Our division handles all of the hazardous materials, hazardous waste, permitting, and we also go out and look at the hospitals, medical offices," Sedghi told Civil Beat. "We have a pretty rigorous program. Our inspectors go out and inspect every medical facility, every hospital, you name it. Anyone who generates any biohazardous material or medical waste, we're there. We don't accept any kind of self certifications. We ask the doctors to obtain a permit with us, and we inspect them on a regular basis."

In other California counties, Sedghi said, the state is responsible for oversight. She said the approach in San Diego is better because it doesn't split the authority between a number of agencies, or put the onus on the state, which has a much broader scope of health-related responsibilities.

"When you have a big authorizing agency, it's just not easy to ensure the laws and the regulations are followed," Sedghi said. "For us, as a local agency, it makes a lot of sense. You have a rapport with the businesses, you're already there inspecting them for other reasons, you know your own county and you know what the policies are. We definitely have a very clear division of authority and maybe that's something that is a helpful thing when you know exactly what you're supposed to do."

### What Does The Spill Mean for the Future of Waimanalo Gulch?

**What we know:** The Hawaii Land Use Commission has a say in the use of all agricultural lands larger than 15 acres — and the Waimanalo Gulch Sanitary Landfill qualifies. The commission granted special use permits in 1987, 1989, 2003 and 2009, giving the city permission to operate the landfill.

The special use permit issued in October 2009, like its predecessors, requires the city to "obtain all necessary approvals from the State Department of Health, Department of Transportation, Commission on Water Resource Management and Board of Water Supply for all onsite and offsite improvements involving access, storm draining, leachate control, water, well construction and wastewater disposal." In all, there are 16 permit conditions.

The Land Use Commission could hold hearings about last week's stormwater discharge and ask questions of landfill operators. City Council member Tulsi Gabbard Tamayo has already scheduled one such hearing. Waste Management and the city's Department of Environmental Services will presumably be in attendance Monday.

While it's conceivably possible for the Land Use Commission to revoke a special use permit for failure to comply with conditions, doing so would leave Oahu without a municipal landfill. However, last week's episode and any enforcement action taken by the state Department of Health or the EPA could weigh upon commissioners if they're asked to again extend the life of the landfill past the current July 31, 2012 target.

Land Use Commission Executive Officer Orlando "Dan" Davidson declined to speak on the record about the matter.

Read the full Land Use Commission special permit [here](#) [pdf].

**DISCUSSION:** *What other questions remain in the wake of the landfill spill? Join [the conversation](#).*

1. The National Pollutant Discharge Elimination System General Permit Coverage is regulated under [Sections 11-55-34 to 34.12](#) [pdf] and Appendices [A](#) [pdf] and [B](#) [pdf] of the Hawaii Administrative Rules. [Another appendix](#)

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[pdf] includes standard permit conditions. [Section 342D](#) of the Hawaii Revised Statutes covers water pollution.

2. Relevant sections are Sections B-3 and B-4 (Pages 20-21) and Section G (Pages 41-43).

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