

Fuel leak at Pearl Harbor military base contaminates drinking water on the Hawaiian island of Oahu

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A massive contamination of the drinking water supply for residents of Joint Base Pearl Harbor-Hickam was discovered on November 20, when 14,000 gallons of jet fuel spilled at the Red Hill Bulk Fuel Storage Facility on the Hawaiian island of Oahu.

CNN reported on December 5 that "Records show a history of fuel leaks plaguing Joint Base Pearl Harbor-Hickam in the past decade, with the most recent leak occurring 11 days before the Navy announced it had discovered contamination in the Red Hill well on Oahu."

The Board of Water Supply (BWS) for Honolulu closed down the Halawa Shaft, Oahu's largest water source, on Thursday, December 2, after the Navy reported in a virtual town hall meeting that it found "a likely source of the contamination," according to a CNN report.

According to the Associated Press, Rear Admiral Blake Converse told state lawmakers Friday that Navy officials are very confident that the contamination happened on November 20, when 14,000 gallons of jet fuel spilled at the Red Hill Bulk Fuel Storage Facility inside a tunnel that provides access to fire suppression and service lines for the complex. The complex supplies fuel for military aircraft and ships that operate in the Pacific. Use of the facility has been suspended.

The spill was cleaned up, Converse claimed, but residents have been warning for weeks of an odor from the water and some have reported going to hospitals for cramps and vomiting after they drank the water.

The Red Hill Bulk Fuel Storage Facility has a long history of leaks dating back to 1943 when it was first built, during the intensive military build-up for WWII. The Sierra Club told Honolulu Civil Beat that since 1943, the facility has recorded at least 73 fuel leaks totaling at least 180,000 gallons, numbers the Navy disputes.

The Navy insisted that contaminated tap water that went

to Hawaii military households was the result of a single spill of jet fuel last month and was not caused by a leak from older underground fuel storage tanks above an aquifer, a lead Navy official told state legislators on Friday, according to Honolulu Civil Beat.

Red Hill Bulk Fuel Storage Facility consists of 20 fuel tanks and an array of pipelines that use gravity to deliver fuel to Pearl Harbor, a short 2.5 miles away.

The massive facility, which holds approximately 180 million gallons of fuel, rests 100 feet above a groundwater aquifer that supplies 77 percent of the island's total water, according to the Department of Health (DOH).

The underground steel tanks enclosed by a concrete shell are now corroding. The Navy claims the tanks are inaccessible and thus impossible to maintain. The pipeline system and the tanks are the same age.

In 2008, the Hawaii Department of Health recommended that the Navy install a leak detection system and groundwater monitoring wells to protect the drinking water. Even then, petroleum contamination was apparent beneath the tanks, according to DOH. The Halawa shaft, which provides 20 percent of the drinking water for the Honolulu region, is under a mile away.

In 2009, an analysis by the Navy predicted that a fuel leak of only 16,000 gallons could poison the military's own water supply with benzene, a known carcinogen. Nearly 16,000 gallons of fuel and fuel-laced water have leaked from Red Hill pipes above the aquifer just this year. Additional gallons have leaked into Pearl Harbor, the lagoon which abuts the base, according to Civil Beat.

The Navy has said the costs of double walling the tanks is not justified but it will try to find an equivalent solution or drain the fuel by "around 2045," as reported by Civil Beat.

An estimated 27,000 gallons of fuel escaped from one

of the tanks in 2014. After that release, groundwater and soil monitoring systems registered spikes in diesel and petroleum, according to the DOH.

In 2019, officials pledged to either invent a secondary containment strategy—a tank within a tank solution that does not currently exist—or empty the tanks.

And yet, during any given year, there is a 27.6 percent chance of a leak of up to 30,000 gallons of fuel, according to a report in 2018 by a consultant for the Navy. And that does not take into account additional risks related to fire, flooding or earthquakes. According to the report, the Navy expects a chronic risk of 5,803 gallons being released per year.

Since 2014, the BWS has raised alarms about the dangers posed by the fuel tanks alongside the Sierra Club of Hawaii and a small group of community members who have been calling for the shutdown of Red Hill.

Another incident in May involved the release of more than 1,600 gallons of jet fuel from a pipeline inside the storage facility, according to a statement by the Navy.

“An investigation determined that operator error caused the release of 1,618 gallons of jet fuel (JP-5) from a pipeline inside the Red Hill Bulk Fuel Storage Facility (RHBFSF) on May 6, 2021,” the Navy said in a release. “The release was not from the fuel tanks.”

“U.S. Navy subsequently drained the tank and collected samples from existing monitoring wells. Results taken in and around Tank 5 indicated increases of hydrocarbons in soil vapor and groundwater,” the health department said in a press statement. At the time, the agency said the drinking water was in compliance with federal and state “concentrations for drinking water both before and after the January 2014 release.”

The DOH said earlier this year that the Red Hill facility’s location above the aquifer is inherently dangerous, and the DOH Environmental Health Administration stated in July that it does not believe Red Hill can operate in a way that protects human health and the environment.

The military has offered all service members and civilian employees living near the base the opportunity to get alternative housing, and Rear Adm. Converse said they are now covering the cost of hotel rooms for more than 700 people.

Converse has not provided a timeline for getting drinkable water back to the affected homes. “It will involve a series of flushes of not just the water distribution main, but of every home,” he stated during a town hall meeting on December 5.

The Navy added it has seen concerns from people in the affected neighborhoods who were exposed to the contaminated water and reported symptoms including nausea, vomiting, diarrhea, headaches and skin-related concerns.

The Navy isolated the Red Hill well last Sunday and sent samples out for testing Monday, it said.

“The results of the Red Hill sample showed petroleum hydrocarbons roughly four to ten times below the Hawaii Department of Health Environmental Action Level (EAL). The Navy had a separate test that confirmed vapors, which is another indication of petroleum hydrocarbons,” it said in a statement.

On Tuesday, when BWS heard about the shutdown of the well, it reduced pumping capacity by 50 percent, it said in a news release.

“We are deeply concerned that we were not notified immediately by the Navy regarding the shutdown of their Red Hill water source,” BWS Manager and Chief Engineer Ernest Lau said in a statement, adding that the Halawa shaft was shut down in an “abundance of caution.”

“We have data that shows when they stop pumping at Red Hill, water starts moving in the direction of our Halawa Shaft due to our pumping,” Lau said.

The contamination impacts the entire Joint Base Pearl Harbor-Hickam system, which is interconnected and serves 93,000 people in communities from the Aliamanu Military Reservation, the Pearl Harbor Peninsula, Ford Island and Iroquois Point, according to BWS.

But the presence of the polluted water from the Navy’s wells indicates that the drinking water for the entire surrounding region, approximately 400,000 people, is also at risk. The Navy and the Honolulu BWS pump their water from the same aquifer, so the affected urban population will be subjected to the same impacts as those of the military personnel.

Since three of its wells are closed down for now, BWS is relying on other wells in close proximity to Diamond Head to meet the water supply for urban Honolulu and the surrounding area.

But those sources cannot permanently replace the well that has been shut down, according to BWS officials.



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