Questions linger around forever chemicals at Brunswick airport’s Hangar 6

Citizen groups and the airport authority on the hook for August's toxic foam spill weigh in on the debate surrounding citizen PFAS monitoring at the airport.

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As Brunswick works to clear up the fallout from an August toxic firefighting foam spill at the airport’s Hangar 4, many anxieties persist around another hangar on the property that some argue still poses the potential for another devastating spill.

Hangar 6 at the Brunswick Executive Airport on Aug. 21. *Brianna Soukup / Portland Press Herald*

Hangar 6 became a big point of discussion in town meetings and other public events after Hangar 4 released 1,450 gallons of firefighting foam concentrate mixed with 50,000 gallons of water this summer. While Midcoast Regional Redevelopment Authority, the entity that oversees redevelopment of the former Navy air base and is on the hook for the spill, maintains that it is not aware of any spills or leaks in recent years, some citizens monitoring per- and polyfluoroalkyl substances, or PFAS, in the environment have doubts.

In the first public forum following the spill, some audience members expressed concerns over an alleged ongoing leak at this hangar, which MRRA Deputy Director Jeffrey Jordan and another MRRA representative denied. Chemist David Page pushed back against MRRA’s denial, stating that “it’s not *not* leaking.”

MRRA has asserted that the only Hangar 6 spill it is aware of dates back to 2012. Still, some residents argue that the sewer water points to PFAS chemicals leaching from Hangar 6.

A group samples a separator pit just outside of Hangar 6 on Nov. 26. *Courtesy of Ed Friedman*

Citizen testing at sewage pump stations

Friends of Merrymeeting Bay, an organization that aims to protect the ecosystems of Merrymeeting Bay, has been testing water sources around the base and elsewhere in town for PFAS for a couple years, according to organizer Ed Friedman and the Brunswick Sewer District General Manager Rob Pontau, who uses this data for basic insight of PFAS in the system.

The organization's tool of choice is a PFAS testing kit called Cyclopure. The kit allows residents to analyze water for PFAS through the Cyclopure lab and only cost about $80. Cyclopure is not a PFAS-testing lab that is certified by the Environmental Protection Agency, mainly because of the way it collects data — through a water filter that captures any potential PFAS data that residents ship off to a Chicago lab. However, the company asserts that its results are accurate.

These kits, which are more affordable than EPA-certified PFAS testing processes, provide valuable insight for other entities like the Brunswick Sewer District. Pontau said that the district does not have a PFAS-treatment system for sewage, but the data can help with finding the source of contamination.

"It's information gathering, we're trying to get ahead of the curve," Pontau said. " … We were kind of using the data to say, 'OK, this part of town is something we need to look further into.' "

When recalling hotspots, Pontau notes that it's hard to establish trends, as data can spike and drop in different areas, including residential neighborhoods. But there are always outliers — both Friedman and Pontau pinpoint Hangar 6 as a concern.

"Hangar 6 is one that's kind of odd," he said, noting that the data jumps back and forth between high and low PFAS detections. " … We can't really figure out what's going on there, which is why that was one that we wanted to look into further."

Pontau said the sewer pump station at Hangar 6, which Friends of Merrymeeting Bay has been testing, only services that hangar. He also confirmed that sewage flows through several miles of pipe before being treated at that pump station. Remaining liquid from the treated water is dumped into the Androscoggin River.

He said that in cases that are clearly of concern, the goal is to figure out what is putting PFAS into the system and address the source of the problem.

“We can’t keep putting it in the environment and think we’re going to be okay just dealing with it,” Pontau said.

Earlier this year, the EPA announced that it was designating two types of PFAS, perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS), as Comprehensive Environmental Response, Compensation, and Liability Act (or CERCLA) hazardous substances.

In one batch of tests for Hangar 6 conducted between 2023 and this year, Cyclopure kits detected PFAS, including particularly harmful PFAS compounds, PFOS and PFOA. Friends of Merrymeeting Bay also tested Hangar 6 on July 29 this year. The results showed several detections of PFAS compounds, including 12,222.22 parts per trillion of PFOS, the same compound found in AFFF, though it unknown what the source of the PFOS could be.

MRRA also released a statement on Monday, noting that it would only be sharing certified lab results for PFAS testing, as the Maine Department of Environmental Protection continues its monitoring in the area following the spill.

“Results from non-certified sources may not meet established standards and could present a risk of misleading or inaccurate information,” the organization stated on its website. “Certified laboratory reports ensure that testing methods and results are reliable, consistent, and in line with state and federal guidelines.”

Friends of Merrymeeting Bay took additional samples using Cyclopure prior to Thanksgiving, though results are not expected until the new year.

AFFF spills and an era ‘before PFAS’

MRRA’s Interim Executive Director Steve Levesque said that other than one leak in 2012, the authority is not aware of any chemical spills that have happened at Hangar 6 since it acquired the property.

Minimal details of this spill can be found in the minutes of the Oct. 18, 2012, Brunswick Sewer District Board of Trustees meeting. Sewer District members noted a “non-billing revenue” for a defoamer purchased after an AFFF spill at Hangar 6. Pontau also noted at the meeting that MRRA had a broken valve that dumped about 2,000 gallons of AFFF down the sewer lines “before it was noticed.”

Levesque said that records show a valve leak in the AFFF equipment room that year. He said that the leak released some concentrate into the Hangar 6 oil and water separation system and sanitary sewer system, as “it was designed to do.”

“It did not trigger any foam releases to the hangar deck, nor the outside environment,” Levesque said, noting that the authority communicated with the Brunswick Sewer District and repaired the equipment and recharged the system.

But before MRRA took control, records for AFFF spills at Hangar 6 are even more fuzzy.

Levesque said the transfer of Hangar 6, which will turn 20 years old this upcoming new year, to MRRA ownership was part of the whole airport conveyance in 2011, right after the former Navy air base closed. Known formerly as Brunswick Naval Air Station, the airport was shut down as part of a widespread U.S. military base closure process in 2010, according to Navy documents.

The hangar was part of a 731-acre property transfer that included airport land and several buildings. The Finding of Suitability to Transfer — often referred to as a FOST, a process that determines when there are no known hazardous chemicals on federal property and is safe to convey — did not address PFAS as it was not a CERCLA contaminant then.

“Every property transfer has to have a finding of suitability for transfer, meaning that there aren’t any known environmental issues that represent a risk to public health and safety,” Levesque said. “So, when that property was transferred, I mean, the whole airport, there were obviously safeguards in respect to no usage of groundwater, those types of things.”

The FOST does provide a summary of documented spills, noting three AFFF spills at a tarmac and Hangar 5. Both spills only amounted to a couple hundred gallons of the foam concentrate combined. No AFFF spills are reported for Hangar 6 in this document.

“It’s certainly an evolving issue,” Levesque said. “Redeveloping former military bases has great opportunities and certainly creates unique challenges for communities and states.”

Growing concerns of AFFF

Aside from citizen testing data, concerns of Hangar 6 also lie in the fact that it’s fire suppression system inspection from 2023 came back faulty, and efforts to correct that are still ongoing.

A trove of documents that MRRA submitted to the town in early October showed deficiencies over the course of eight years pop up for Hangars 4, 5 and 6. Some of these included issues with the deluge valves, which release water or other chemicals in the system. The PFAS-based foam concentrate present in the Hangar 6 fire suppression system — and given the fact that Hangar 4’s suppression system was also found deficient and went unrepaired for over a year before it spilled — leaves many wondering if another spill is imminent.

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“[MRRA] knew that they were taking over airport operations,” said Suzanne Johnson, the president of the Brunswick Area Citizens for a Safe Environment, a group formed to address issues related to toxic waste at the former air station. “They had, as a buyer or recipient of that property, the ability to investigate all these fire suppression systems, which continue to age throughout all these years of their ownership and management.”

She argued that the systems in the hangars are not in good order because MRRA has not been a good steward of the property. She also questioned why MRRA had not sought out funding to keep systems in good shape.

But Levesque said that is not accurate, arguing that MRRA has always strived to be good stewards of the airport and surrounding areas. He also said that MRRA has a “very good environmental track record.” He reiterated MRRA’s assertion that Hangar 4 was an unfortunate release, caused by a mechanical malfunction.

“MRRA has a strong record of environmental stewardship, as that is a key pillar of our redevelopment strategy,” Levesque said. “We comply with all environmental and land use controls associated with our property transfers.”

He pointed to when PFAS became an emerging contaminant over the years. He echoed statements made by former Executive Director Kristine Logan, who resigned in the wake of the spill, that MRRA had sought guidance from the EPA, DEP, Federal Aviation Administration and Navy to address the AFFF in hangars. He added that federal and fire codes allow the concentrate in the systems.

“Unfortunately, no such guidance from any of the entities or resources were ever offered,” Levesque said. “In fact, no ‘best management’ guidance was ever provided or were financial services offered to MRRA when PFOA/PFAS was designated as CERCLA substance in 2023.”

However, he said that MRRA continues to seek out resources to help get the foam out of the hangars. Levesque said that Poole Fire Protection is conducting a risk assessment study of all the hangars, including 6, to figure out what risks are present in the hangars and what can be done inside them. The assessment, he said, will be completed in a few months.

Comments

Excellent article, thank you.

One correction and one comment: The article states: "In one batch of tests for Hangar 6 conducted between 2023 and this year, Cyclopure kits detected PFAS, including particularly harmful PFAS compounds, PFOS and PFOA". In fact Friends of Merrymeeting Bay and Brunswick Sewer District have tested the Hangar 6 pump station three times prior to last July and each time elevated levels of PFOS and PFOA have been found, not in just one sampling. In the following two article paragraphs MRRA is quoted as saying they will only release test results from certified labs with a clear implication that results non-certified labs like Cyclopure are questionable. To be clear, FOMB and BSD have repeatedly run split samples between Cyclopure and various certified labs and consistently Cyclopure results have been conservative. This is to say, results from certified while similar to Cyclopure in trends at least, have always detected higher levels of PFAS than Cyclopure. The July sampling was the latest example with results from Alpha Analytics, the same lab used by DEP showing levels of PFAS higher then those detected by Cyclopure. FOMB posts all results on the Chemical page of our web Cybrary.

Ed Friedman, FOMB