DANE COUNTY
REGIONAL AIRPORT
MADISON

PFAS AT DANE COUNTY REGIONAL AIRPORT

What We Know

What We're Doing About It

August 2020

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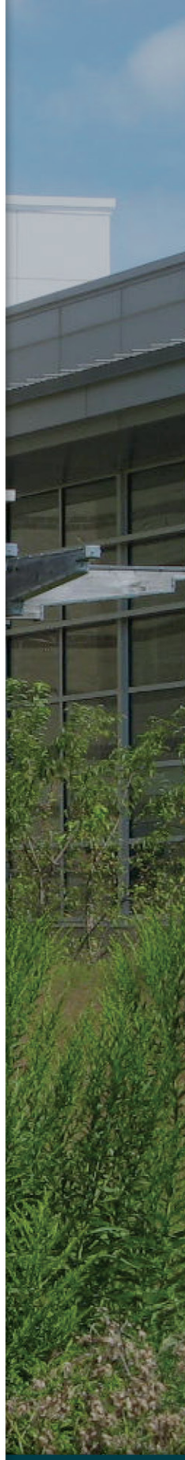
PFAS, short for a group of per- and polyfluoroalkyl substances, are nothing new – they've been around for decades. But these common chemicals are making the news as more research and testing is being done across the country to understand their effects and locate areas contaminated with PFAS.

We are all concerned about how these chemicals could affect the health of our community. Right now, there are more questions than answers about PFAS – but Dane County Regional Airport (DCRA) is committed to joining with local, regional, and national partners to understand and respond to the problem of PFAS.

In this document, we share what we currently know and how we are working to develop the best possible solutions for Dane County residents.



ABOUT PFAS

PFAS are a large group of more than 5,000 man-made chemicals developed by 3M in the late 1940s. They are fire-resistant and repel oil, stains, grease, and water. They have been widely used around the world, and are, or were, found in everyday items like nonstick cookware, carpet, microwave popcorn bags, water-resistant clothing, dental floss, and many other consumer goods.

In addition to household products, PFAS has been used for industrial purposes, including chrome plating, electronics manufacturing, and oil recovery.

It is also an ingredient in firefighting foams used in numerous industries, including chemical plants, flammable liquid storage and processing facilities, municipal firefighting services, airports, other aviation operations, and military facilities.

- Certain PFAS are no longer manufactured in the US, but over time they have accumulated in the environment.
- They are so resistant to breaking down that they're often referred to as "forever chemicals."
- A more detailed history of PFAS can be found on the Interstate Technology & Regulatory Council (ITRC) website: https://pfas-1.itrcweb.org/

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HEALTH EFFECTS

The study of the impact of PFAS on health is an ongoing process. According to the Environmental Protection Agency (EPA), studies suggest that the two most researched PFAS chemicals, PFOA and PFOS, can cause adverse health effects.

The studies show adverse effects on laboratory animals in their reproductive system, liver, kidneys, immunological system, and development.

Both chemicals have caused tumors in animals. The most consistent findings are increased cholesterol levels among exposed populations, with more limited findings related to low infant birth weights, effects on the immune system, cancer (for PFOA), and thyroid hormone disruption (for PFOS).

- Some studies in humans have shown that PFAS exposure can increase the potential risk for several adverse health conditions including affecting growth, learning and behavior in infants and older children, lowering a person's chance of getting pregnant, interfering with the body's natural hormones, increasing cholesterol levels, affecting the immune system, and increasing the risk of cancer.
- Learn more at epa.gov/pfas/basic-information-pfas#exposed

REGULATION OF PFAS COMPOUNDS

Currently, there is limited regulation of PFAS. Congress has not categorized PFAS as a hazardous substance under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund), the primary national hazardous waste remediation law. In the absence of legislation, the EPA can issue health advisories to guide lawmaking efforts.

In 2016, EPA issued a lifetime health advisory (LHA) for PFOA and PFOS in drinking water at 70 parts per trillion (ppt). Health advisories describe concentration, method, and duration of exposure at or below which adverse health effects are not anticipated to occur. So, when the EPA issued the 70 ppt LHA for PFOA and PFOS in drinking water, they are stating that, with the currently available data, adverse health effects are not anticipated if a person drinks a typical volume of water every day containing less than 70 ppt of PFOA and PFOS over a typical lifetime.

- As is the case at the federal level, there are no current laws in Wisconsin that regulate safe levels of PFAS. In October 2019, the Wisconsin Department of Natural Resources (WDNR) started the rulemaking process to develop legal standards for PFOA and PFOS in groundwater, surface water, and public drinking water.
- The rulemaking process takes almost three years to complete from the start of the process. In the meantime, the Wisconsin Department of Health Services (WDHS) has recommended a groundwater enforcement standard of 20 ppt for PFOA and PFOS. In the absence of rules, this is an advisory standard rather than a legal mandate.
- For more information, visit dnr.wi.gov/topic/contaminants/PFAS.html

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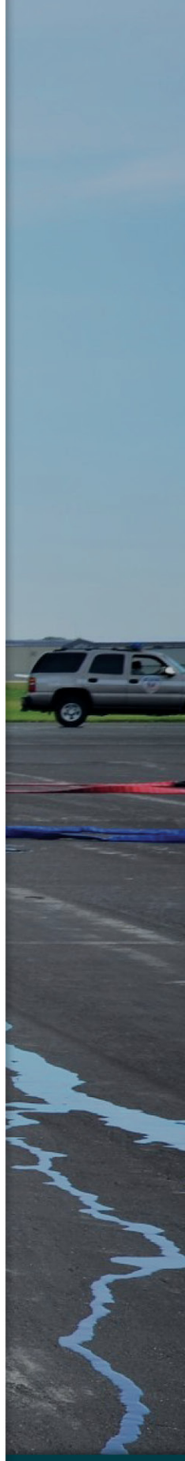
PFAS USE AT AND NEAR THE AIRPORT

DCRA receives its Aircraft Rescue & Firefighting (ARFF) services from the Wisconsin Air National Guard (WI ANG or Guard). The Guard Base, also known as Truax Field, is located adjacent to the Airport and shares common infrastructure with the Airport. The Federal Aviation Administration (FAA) regulations have, and continue to legally mandate that airports use a firefighting agent containing PFAS known as Aqueous-Film-Forming Foam (AFFF) for real-life emergencies. AFFF is the most effective chemical available to quickly extinguish aircraft fires and save lives. In 2015, WI ANG replaced all AFFF containing PFOS and PFOA, known as Legacy or C8 AFFF, with a foam that does not contain PFOA or PFOS, known as C6 AFFF.

FAA regulations also required ARFF vehicle fire system testing to be conducted once a year with AFFF. In early 2019, the FAA created an exemption for this rule allowing airports to use testing equipment that does not require dispensing foam, and the WI ANG currently uses this equipment. Due to AFFF's environmental impact, Congress directed the FAA to change its regulations and allow airports to use alternative foams by October of 2021.

- The historical use of PFAS-based foams at the Airport is under investigation. It appears the use began in the early 1970s. The specific timing and practices are being researched.
- A news article from the period indicates that the Guard provided firefighting services to the Airport until 1969 when the City of Madison, which owned the Airport until 1974, took over those services for a period of time. It is also known that there were two fire training areas in the Airport vicinity at which numerous Wisconsin firefighting organizations trained.



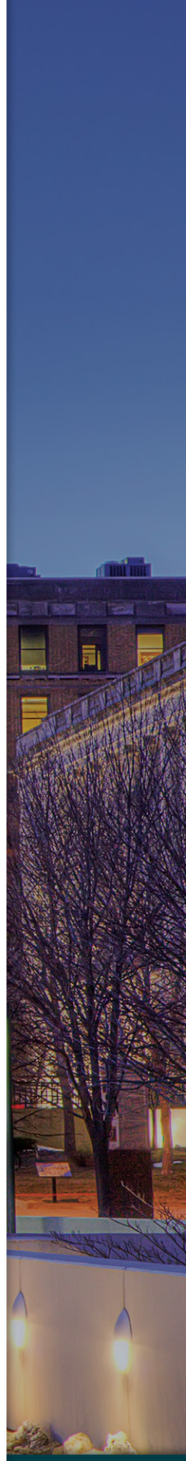
PFAS CONTAMINATION IN MADISON AREA

The process of investigating the presence of PFAS contamination in the Madison area began in the last couple of years and will be an ongoing process. Here is what is known to date.

In 2019 the City of Madison Water Utility tested all the utility wells for PFAS. As this map shows, 14 of the 23 wells tested showed low or trace amounts of PFAS. The highest concentration of PFAS was found at Well 15, where two PFAS chemicals – PFOA and PFOS – measured at a combined 12 parts per trillion, which is below the WDHS advisory standard of 20 ppt and the EPA's 70 ppt LHA.

Well 15 has been shut down for over a year. Madison Water Utility will not operate Well 15 until the WDHS develops advisories on PFAS other than PFOA and PFOS, unless faced with a severe water shortage. To learn more about Madison Water Utility well testing and the closure of Well 15, visit MadisonWater.org/PFAS. The City of Madison will continue to test, monitor, and develop solutions for Madison's wells.

- In 2018, an investigation found PFAS contamination in soils and groundwater underlying Truax Field.
- After further investigation in October 2019, PFAS was detected in Starkweather Creek and in the Airport stormwater system.



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INVESTIGATION AND REMEDIATION ACTIVITIES

In cooperation with the Guard and City of Madison, Dane County is leading several concurrent activities to address the PFAS contamination discovered at and near the Airport. We have been meeting regularly with the WDNR to develop plans to address PFAS at the Airport.

- In addition, we are in touch with other airports to share information and lessons learned. PFAS contamination has been identified at airports across the country, and many are working to find the best way to remediate them. Dane County Regional Airport is among the first airports in the nation to take action towards PFAS.
- To guide our efforts, Dane County has been working with its on-call consultant, Mead & Hunt, which has nationwide expertise on PFAS issues at airports. They have sampled stormwater basins in numerous locations around the airport property. That sampling found two “hotspots,” which helps focus investigation and remediation efforts.
- Further sampling and other investigation processes are planned and ongoing to refine our understanding of the PFAS sources and develop a mitigation cleanup strategy. These plans include investigation of the historical fire training areas and further investigation of the stormwater system.
- You can find the stormwater investigation work plan and stormwater sampling results by going to the WDNR Bureau for Remediation and Redevelopment Tracking System (BRRTS) site and searching for investigation number 02-13-584472. The fire training areas’ work plan can be found by searching for investigation number 02-13-583366. The WDNR website is dnr.wi.gov/topic/Brownfields/botw.html.

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NEXT STEPS

Currently, there is little scientific guidance and no EPA or WDNR regulation governing the safe removal or disposal of PFAS-contaminated wastes. Nonetheless, we are eager to clean up these chemicals, and we are committed to doing so responsibly. That includes learning and doing what is necessary to protect workers and the community from exposure as we investigate and remediate contamination. For instance, we have to make sure that any plan for disposing of PFAS will not create more problems in the future. With those objectives in mind, we will submit a request for proposal (RFP) to select a PFAS remediation contractor to lead the cleanup work.

- Dane County and its partners are not waiting for all of the sampling to be completed to begin trying to clean up the problem. We are taking immediate action at one of the “hotspots” found in the sampling earlier this year with a pilot project to remove PFAS from the stormwater system.
- The pilot includes continuous testing to evaluate whether the technology being used is successful. If the results are promising, we can expand the use of this new technology to other areas of the airport property where PFAS has been detected.

By working with the WDNR, the Guard, and other partners, we, the Airport, are committed to continuing the cleanup work and fine-tuning a detailed action plan that may be a benchmark for airports across the country. We will continue to provide the residents of Dane County updates on our progress.

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