

ACRP Problem Statement: 391

Guidebook for Environmental Management of PFAS at Airports

Recommended Allocation: \$350,000

Tags: Airport-Planning, Environment, Operations, Sustainability, Water-Quality

Thought Leader Forum on Emerging Issues: N/A

Research Roadmaps: N/A

Staff Comments

Three PFAS-related problem statements were submitted for FY 2021: 303, 391, and 483. Each is sufficiently focused so that combining them is not recommended. As noted in the problem statement, ACRP Research Report 173: Use and Potential Impacts of AFFF Containing PFASs at Airports provides an initial investigation into the topic; however, PFAS management was not covered comprehensively.

AVERAGE INDUSTRY RATING BY AUDIENCE SEGMENT

Audience Segment	Average Rating	Number of Responses
Academics	N/A	0
Airline Representatives	5.00	2
Airport Employees	4.22	9
Consultants	4.67	6
Fed/State/Local Government Employees	5.00	4
Private Sector	4.00	2
Undefined	N/A	0
Overall Total	4.58	23

AOC Disposition

The average AOC rating among voting members was **4.4** on a scale of 1 to 5. Approved and funded at \$350,000 as ACRP Project 02-93.

Guidebook for Environmental Management of PFAS at Airports

Summary

The Guidebook for Environmental Management of PFAS at Airports will provide airport managers with a comprehensive yet practical resource for managing the environmental risks of polyfluoroalkyl substances (PFAS) in water, soil, and wastewater at and near the airport.

Background

An unknown yet potentially significant number of airports have site soils, groundwater, and/or wastewater that contain elevated concentrations of one or more per- and polyfluoroalkyl substances (PFAS). Airports (and military bases) widely used fire-suppressing aqueous film-forming foams (AFFFs) that contained PFAS and acted as a source of PFAS releases into the environment.

Growing environmental concerns about PFAS are indicated by recent and significant regulatory developments. Since early 2019, the USEPA has published: a PFAS Action Plan (2/2019); an Interim Recommendations to Address Groundwater Contaminated with PFOA and PFOS (PFAS compounds) (12/2019); an Advance Notice of Proposed Rulemaking (ANPRM) (12/2019) that considers a rule to add some PFAS compounds to the Toxics Release Inventory (TRI) list; and a Federal Register Notice (3/10/2020) announcing that USEPA's Office of Water will regulate and set standards for PFOA and PFOS in drinking water. USEPA also now maintains a PFAS data and tools website. Addressing PFAS contamination at and near some airports is becoming more of an environmental and planning issue. Some anecdotal information indicates that insurance coverage for airports related to PFAS is becoming more restrictive. Airport managers are faced with a growing need to address PFAS legacy environmental contamination and prevent future PFAS problems.

Objective

The guidebook will compile, research, and summarize technical and regulatory information that will serve as a one-stop, comprehensive resource for airport managers to assess and manage potential PFAS-related risks, plan and implement remediation and treatment, and monitor and maintain compliance with PFAS environmental regulations.

Research Approach

The approach for developing the guidebook will be to: compile and review the state-of-the-science literature on existing PFAS technical, regulatory, policy, and environmental management information; identify the information that requires updating, extending, or modifying for current airport needs; research and fill information gaps; and present the comprehensive results and findings in guidance and best practices terms that are tailored to the needs of airports. In addition to a literature review, this work might entail some type of survey of airport managers to identify technical information and data gaps, limited case studies to illustrate best practices for site investigations, remediations, and compliance strategies, and development of a practical cross-walk for airport managers to better navigate PFAS management work across state and federal regulations, and across regulations of the various environmental media (soil, water, drinking water, and wastewater).

Cost Estimate/Backup

A very approximate cost estimate is between \$300,000 and \$350,000. About half of the total will support the extensive literature review conducted in the context of airport needs, ACRP 173 updates and extensions, and the recommended research identified in the ACRP Research Roadmap (see below). About a quarter will support the planning and implementation of the survey and case studies, and a quarter will support the preparation of the draft and final guidance document.

Related Research

ACRP Research Report 173 (2017) presented a valuable airport reference on: the sources and chemistry of PFAS; sampling, analysis, and remediation of PFAS in soils and water; and a screening tool to identify areas at airports of potential environmental concern. Recommendations for future research was also included. Some of the key recommendations from ACRP 173 are reflected in the ARCP Research Roadmap that identifies several PFAS-related topics that warrant research. These topics include identifying FAA-accepted alternative AFFFs (Idea Rank #25), best management plans for PFAS-containing foams (Idea Rank #32), identifying cost-effective disposal practices of AFFFs containing PFASs (Idea Rank #35), and guidance on using existing treatment facilities to remove AFFFs from wastewater (Idea Rank #46).

In April 2020, the Interstate Technology and Regulatory Council (ITRC) published an online PFAS Technical and Regulatory Guidance Document and related materials that provide extensive PFAS-related environmental information including: AFFF use and handling; site risk assessments; state and federal PFAS regulations; site environmental investigation and characterization; sampling and analysis; treatment technologies; and risk communication. (Given the ongoing changes in state and federal regulations, the ITRC online material reports that the companion spreadsheet that presents state and federal soil and water regulations will be periodically updated online.)

Given the changing regulatory landscape and evolving treatment technologies, the ACRP 173 might require updating and extending. The large ITRC online PFAS document contains very useful information, but is not tailored to airports. For example, this document partly or generally addresses some of the research topics identified in the ACRP Research Roadmap, but the information would be more valuable if it was researched and presented specifically for the needs of airports. The proposed Guidebook for Environmental Management of PFAS at Airports will: update and extend ACRP 173; prepare an airport user's guide for the USEPA PFAS data and tools website; synthesize and modify information from the ITRC document to specifically address airport needs; and identify remaining gaps in guidance or best practices, conduct the research to fill those gaps, and present the results specifically tailored to the needs of airports.

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INDIVIDUAL COMMENTS FROM THE INDUSTRY REVIEW

Airports are needing better guidance on this

An emerging issue that many are attempting to figure out.

Applicability was well defined to define gaps in information as well as need for the information within the industry. Numerous references to available resources upon which to develop a solution were provided to establish that the project would be achievable. Given the regulatory environment related to the PFAS the plan will be available during a critical time of need in the near future. A final comment concerns the environmental areas of concern. The use of the words "water" and "groundwater" are used in different areas of the problem statement. Some clarification should be given as to whether this project will include both "aboveground waters" (i.e. rivers, streams, springs, wetlands, ...) and "groundwaters" (i.e. shallow groundwaters, and drinking water sourced groundwaters).

Applicable: The industry must take the lead with this topic. Maybe 303 and 391 can be combined.

Good current topic since PFAS is all the rage these days, but be prepared for significant resistance from airports to participating in surveys since the survey information may implicate the airport and open up liability to remediation, if subsequent contamination is later discovered.

How does the proposed work relate to the workplans airports have already developed to respond to local water quality control boards?

Many airport managers and staff could really use a better understanding of the issue

The clean up and remediation of PFAS is going to be a huge problem for several industries in the coming years. Any guidance in this would be valuable to the Airport industry.

This appears to be a comprehensive approach to the study of the PFAS issue for airports. PFAS is a significant concern, and there is a great deal of discussion and research going on, which this project could contribute to. I believe this proposal could be combined with #303 to provide maximum benefit for airports; adding some additional funding and expanding the scope to consider possible air emissions from PFAS would expand the usefulness of this study.

This issue is applicable to a large number of airports and clear direction is not the case in many instances on what efforts need to be taken. I am concerned if this is achievable such that clear direction can occur as a one solution may not be the case due to local jurisdictions. However, something is needed in industry.

This issue will continue to challenge airports and staff in the near future and has widespread applicability.

This would be a good "go to" source of information for airports to use to manage PFAS.

This would be widely used by airports, due to the important topic.

Timely and important.

Urgent need to have guidance for this so that airports can be prepared to address concerns from both regulatory agencies and the general public.

Very relevant and a great way to synthesize information, but there is no plan identified for keeping the information relevant to a quickly changing landscape.

Very timely topic and airports could easily implement this.

Idea Number: 391

Guidebook for Environmental Management of PFAS at Airports

Input Provided by ACRP IdeaHub Community

The votes and comments below were provided by the IdeaHub community prior to the idea's submission as a problem statement.

Idea Link: <http://ideascale.com/t/UKsrZBi3B>

Tags: Airport-Planning, Environment, Operations, Sustainability, Water-Quality

Votes:

Votes	
Up	4
Down	0
Total	4

Comments:

While I see value in this project, I wonder whether it is redundant with other up-to-date sources, including Interstate Technology & Regulatory Council (ITRC) Guidance document (<https://pfas-1.itrcweb.org/>) which just came out. That document, while not being airport-specific, is web based and therefore will be continuously/periodically updated. The ITRC, being an organization of state regulators, features the best compilation of state and federal regulations, which are updated every 6 weeks. I just wonder what is to keep this ACRP project report from getting stale and OBE as regulations and technologies change.

The ITRC web-based publication looks very relevant and will be a continued resource on regulations since it will be routinely updated. I wonder if there might be some value in 'translating' the ITRC general information into more airport facility-specific guidance?

Yes. perhaps distilling down the portions of the document that do not apply to airports. or creating a tool that the airport owner could enter in their location, and it would access ITRC regulatory information to provide the potentially applicable regulations. Or a questionnaire the airport could answer questions and it would advise where potential PFAS impacts might be?