Subcommittee on Airports Findings and Recommendations

Winter/Spring 2019

F&R 1– 10 Year Airport Pavement Plan Update

FINDING 1: During the meeting, FAA Airport Pavement Research Program staff discussed their plans to update its 10-year airport pavement research plan, reflecting research that would be conducted between 2020 and 2030. The Subcommittee supports this effort.

RECOMMENDATION 1: The Subcommittee recommends that the FAA proceed with updating its 10-year airport pavement research plan in coordination with both the Subcommittee and the more specialized airfield pavement Technical Advisory Group. We also request a progress report concerning the 10-year plan at our Summer 2019 meeting.

F&R 2 – “Smart Airports”

FINDING 2: The Subcommittee also received a briefing from Eric Neiderman regarding the concept of “smart airports”, a term Mr. Neiderman used to refer to the increasing use of connected and interactive technologies at airports to manage operations, facility maintenance, improve customer service, and enhance efficiency. The Subcommittee noted that considerable efforts are already underway within the airport industry both in the U.S. and internationally to define the term “smart airport” and its constituent components. Subcommittee members also noted that there are many existing industry forums dedicated to the development and refinement of “smart airport” concepts and enabling technologies, including the internet of things (IOT), building information modeling and asset management systems, and total airport management (TAM) concepts.

Consistent with these discussions, the Subcommittee found that FAA research and development activities related to smart airports should be informed by and build off well-established work that is already in progress within the airport industry.

RECOMMENDATION 2: The Subcommittee recommends that the FAA work with the Subcommittee members and other subject matter experts both within the airport industry and, more broadly, in the fields of technology, urban planning, and transportation planning to better understand the evolving field of “smart airports” and narrow its research focus to areas that are (1) associated with FAA’s statutory remit and (2) not otherwise being researched or developed by industry.

F&R 3 – PFAS

FINDING 3: As noted in our findings and recommendations from our Fall 2018 meeting, potential environmental contamination by per- and polyfluoroalkyl substances (PFAS) is a growing public policy issue. PFAS are a class of fluorinated hydrocarbon molecules that have been linked to adverse health outcomes in humans.[1]

In the airport context, PFAS are used in aqueous film-forming foam (AFFF) suppress and extinguish aircraft fuel fires. Under current FAA regulations, certificated airports are required to use AFFF because of the high level of performance it provides (e.g., ease of dispensing via current ARFF equipment, fire knockdown times, fire burn-through times).[2] This said, over the last decade there have been numerous alternative foams that have come onto the market and are being used at airports around the world.

Since the Subcommittee last met, the U.S. Environmental Protection Agency issued its *Per- and Polyfluoroalkyl Substances (PFAS) Action Plan,* which describes the research, regulatory, and governmental and community outreach activities the EPA is currently leading or plans to lead to "understand and effectively manage from PFAS". The Action Plan encompasses initiatives that the will be undertaken in the immediate to near future—2019 through 2022. In addition, since the Fall of 2019, key governmental organization and legislatures within several states—notably California, Massachusetts, Michigan, Oregon, and Washington—have raised significant concerns about potential PFAS contamination on and near airports.

We note that in accordance with the Subcommittee's Fall 2018 recommendations, the FAA has expedited publication of a Cert Alert enabling the use of foam proportioning testing systems that enable certain FAA certification requirements to be met without requiring AFFF to be discharged into the environment. That said, the Subcommittee finds that the aforementioned actions of the U.S. EPA and state and local governments increase the urgent need for credible research regarding (1) containment practices that reduce the potential for PFAS contamination into the environment, (2) mitigation practices for PFAS that is already present in the environment, and (3) alternative fire suppression agents that do not contain PFAS.

[1] https://www.epa.gov/pfas/basic-information-pfas#health

[2] The FAA Reauthorization Act of 2018, enacted on October 5, 2018, includes a provision that requires the FAA to allow use of non-fluorinated foams within three years of enactment provided they meet appropriate performance standards.

F&R 3 – PFAS

RECOMMENDATION 3: The Subcommittee reiterates its recommendation that the FAA proceed with all due speed with defensible research into the performance and use of alternatives to AFFF in the civil aviation sector including completing and commissioning its new fire research facility at the Technical Center.

We also reiterate our recommendation that the Airport Technology Research Programs perform a gap analysis of research regarding the health and environmental hazards associated with fluorinated AFFF use at airports and work with the Subcommittee to determine how these gaps can be addressed either within or externally to the these FAA Research Programs.