Subcommittee on Airports' Report to the FAA Research, Engineering, & Development Advisory Committee

Presented by:
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ACI-NA
October 5, 2022

Airports Subcommittee Meeting

- Met virtually on September 7-8, 2022
- Reviewed the current Airport Technology Research & Development portfolio and research progress
- Briefed by the Airport Cooperative Research Program, Airport Asphalt Pavement Technology Program, and Airport Concrete Pavement Technology Program on complementary research areas
- Had specific research briefings on:
  - Airport firefighting research
  - Integration of advanced air mobility and unmanned aircraft systems at and near airports
  - Engineered Materials Arresting System (EMAS) signage
  - Airport climate change resiliency
  - Airfield pavement testing program
  - Reflective pavement cracking research

Observations

- The Subcommittee recognizes the contributions that Dr. Michel Hovan made to the Program in his role as Manager of the Airport Technology Research & Development Branch (ATR) and thanks him for his federal service.
- The Subcommittee appreciates the speed and scope of research work to address new entrant aircraft compatibility and integration at and near airports. The Branch's work to evaluate beneficial use of UAS at airports has been particularly helpful.
- We are also looking forward to the findings from evaluations of UAS detection and mitigation systems, which will inform both airport operators and government agencies tasked with counter UAS responsibilities.
- The Subcommittee also appreciates ATR's ongoing airport resiliency research which is bringing attention to some of the more critical climate resiliency issues facing United States airports.

Observations (cont'd)

- The Subcommittee looks forward to new areas of fire-fighting research that the Branch will pursue when its research regarding the transition from aqueous film-forming foam (AFFF) to fluorine-free foam (F3) is completed. The airport community is particularly interested in the fire fighting needs associated with increased airside electrification.
- The Subcommittee again commends the Branch on its continuing development of global-leading airfield pavement modeling capabilities including the Branch's work to develop simulation models of reflective cracking with machine learning techniques.
- The Subcommittee also notes that continued funding for the AAPTP and AACTP in the upcoming FAA reauthorization cycle is important. Both of these pavement research programs provide key supplemental research to the pavement research activities the Branch undertakes directly.

Subcommittee Finding 1

The Subcommittee appreciates the Program's focus in recent years on airport climate change resiliency.

However, explicit incorporation of resiliency as an airport capital project justification within the Bipartisan Infrastructure Law (BIL) and growing awareness of the breadth of resiliency considerations that affect airports suggest that the Branch's resiliency portfolio should be expanded to include elements in addition to climate change.

Subcommittee Recommendation 1

The Subcommittee recommends that we and the FAA Office of Airports collaborate on a research tasking to clarify the definition of airport resiliency and provide improved policy and technical guidance regarding how resiliency considerations can be incorporated into airport planning and development efforts.

As a first step, the Subcommittee proposes to develop a draft research tasking for the Office of Airports to consider.

Subcommittee Finding 2

There is an array of research-driven information airport operators need in advance of transitioning from AFFF to F3, including training requirements, firefighting tactics, and equipment requirements.

The Subcommittee also acknowledges that the FAA, airport operators, foam manufacturers, aircraft manufacturers, and DoD all have important expertise and perspectives on these transition issues.

We also recognize that some airport operators will have external regulatory, legislative, or policy imperatives to transition from AFFF to F3 as soon as practicable following FAA approval of F3 products for use.

Subcommittee Recommendation 2

The Subcommittee recommends that the FAA utilize the ARFF Advisory Group to assist in the expedited development of an F3 transition plan that provides guidance to airport operators and ARFF personnel regarding training, equipment requirements, firefighting tactics, and other relevant considerations.

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