

FAA REDAC Subcommittee on Environment and Energy

September 2018 Meeting

Findings and Recommendations

The Environment and Energy (E&E) Subcommittee of the FAA Research, Engineering and Development Advisory Committee (REDAC) met in Washington, DC on September 11 – 12, 2018. The subcommittee focused on reviewing the R&D portfolio in Environment and Energy for 2019 and evaluated the impacts that the President's proposed \$74M budget would have on these programs out to 2025. Future budget allocations will have a definite impact on when research projects could be completed. **As of the writing of this document, we are pleased to see that both the House and the Senate have reached an agreement that would increase the FAA RED funding close to the approved 2018 level of \$175M. The FAA should also be congratulated for their part in the recent adoption of the CORSIA standard by ICAO. The hard work and dedication that was put forth by its research staff was key to the passing of this recommendation at a global level.** Following is the report on the outcome of this meeting. The recommendations offered are all for inclusion in the REDAC report. There are no recommendations from this meeting for the letter to the Administrator.

Finding (1): - Alternative Jet Fuels:

It is the position of this Subcommittee that the work on Alternative Jet Fuels (AJF) is critical to the U.S. industry and should be supported at the highest levels. Having the FAA maintain a leadership role in the development of AJF will also ensure that the rules that are developed internationally will benefit the U.S. industry. The elimination of funding for the Alternative Jet Fuel (AJF) Program (including efforts in the Commercial Aviation Alternative Fuels Initiative (CAAFI), CLEEN and ASCENT) will have a catastrophic effect on the maturation of this fledgling industry. It is our view that the new companies and the industry that have been created will not be able to continue the work on AJF without government funding and the policies and procedures that are currently in place. Alternative fuels are a critical component of the industry's emissions reduction strategy and must be developed if industry is to get to their carbon neutral growth goals after 2020 and their emissions reduction goals in 2050.

Recommendation (1):

Since the maturation of the Alternative Jet Fuel program will be a major environmental benefit for the public, will create a new industry within the U.S. that benefits rural America, and will benefit the U.S.

aviation industry, we strongly recommend that either RE&D A13.a or A13.b budget line items have an allocation for the continuation of research on AJF.

Finding (2): Public Private Partnerships:

The Office of Environment and Energy (AEE) have proven over decades to be very good stewards of taxpayer money. They have used their budgeted amounts to conduct and coordinate the research necessary to produce informed policies, facilitate technological advances in the aviation industry, and produced models and data that have positioned the U.S. as both a State leader at ICAO CAEP and on the global aviation stage. This has been accomplished by working collaboratively with private industry, major universities through the Partner and ASCENT Centers of Excellence, other Federal Departments and Foreign Governments. Three quarters of Environment and Energy research funds generate 100% plus cost matching from non-federal partners (CLEEN, CAAFI, and ASCENT). These programs help prepare the next generation of professionals for the aviation environment and energy domain. In order for the work that is being conducted with private industry and by these Centers of Excellence to not be adversely impacted, the government must approve the associated grants that are currently in the pipeline.

Recommendation (2):

The Subcommittee continues to endorse the robust funding of Public Private Partnerships like the CLEEN, CAAFI and ASCENT that leverage scarce resources. We also endorse the close collaboration between NASA and the FAA. In order to not interrupt the much needed work that is being accomplished, we request that the FAA expedite the approval of the pending grants associated with these partnerships.

Finding (3): Noise Research:

The Subcommittee realizes that aviation noise is an ongoing issue. Despite all the work that is currently being conducted, much research is still necessary to address the ongoing topic of aviation noise. If not properly addressed, it will be a constraint on the growth of the U.S industry. AEE has a number of research projects that are looking at the impacts of noise on children's learning, sleep impacts, community annoyance and cardiovascular health. AEE is looking at the certification requirements for supersonic aircraft as well as UAS that are larger than 55 pounds. There is currently no noise regulations for supersonic aircraft other than the Concorde. AEE is also examining how to reduce the noise from commercial aircraft and helicopters through changes in operational procedures. Finally, AEE is working with industry to accelerate the development of technologies that reduce noise through the CLEEN Program. This work could soon be held up because of the current delay in processing grants.

Recommendation (3)

The Subcommittee strongly supports the prioritization of the noise research that will support informed decision-making and enable NextGen Deployment. We believe that the focus should be on impacts of Subsonic, UAM/UAS, Supersonics and then Commercial Space vehicles, in that order. The FAA should therefore aggressively move forward with its research efforts.

Finding (4): Global Leadership

Through the FAA's ability to influence the establishment of international standards at ICAO, the U.S. aviation industry has been able to maintain its competitiveness throughout the world. The Subcommittee believes that maintaining the U.S. global leadership position at ICAO CAEP is essential to protecting U.S. aviation interests. The Subcommittee is still very concerned about the FAA's long term ability to meet its goals and from being able to maintain current research or evaluate the impact of future entrants on the environment given the current President's proposed budget cuts. Decreased funding will undoubtedly reduce the FAA's ability to respond to domestic needs, such as those regarding noise, and seriously jeopardize the U.S. global leadership position at ICAO CAEP.

Recommendation (4):

The Subcommittee recommends the prioritization of all research efforts/programs that will allow the FAA and the U.S. to maintain its current global leadership position at ICAO CAEP. It is the belief of the Subcommittee that if the FAA/U.S. does not maintain its leadership position at ICAO CAEP, it will not be able to influence policy/rulemaking and this could have a significant negative impact on the U.S. aviation industry.

Finding (5): Staffing

The Subcommittee is very supportive of the work that AEE does and believes that E&E is well managed and has a well balanced portfolio. We still believe that the inability to fill vacant positions will hamper the efforts of E&E to properly coordinate the amount of research necessary to both maintain the current programs and address future research that is necessary for informed decision making.

Recommendation (5):

The Subcommittee recommends the FAA place a high priority on filling staff vacancies to manage the E&E R&D portfolio and support the expanding workload within AEE.