

FAA REDAC Subcommittee on Environment and Energy

March 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 March 07 - 08, 2018. At the request of the Chairman of the FAA REDAC and because of the recently released 2019 budget, which he stated contained "significant reduction in FAA RED funding (from \$175M to \$74M)", the subcommittee focused on reviewing the R&D portfolio in Environment and Energy and evaluated the impacts. Staff provided deep dives into the FY19 portfolio plan and proposed future adjustments. 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:

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. This research has helped with the creation of a number of companies that will benefit the rural economies of some states and the U.S. Aviation industry. It is the position of this Subcommittee that the work on Alternative Jet Fuels is critical to the U.S. industry and should not be eliminated. 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. It is our view that these new companies and the industry that is being 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). This leverages scarce FAA R&D funds to accomplish significant advances and improvements. In addition, government funding has been used effectively to lower the risk of new and emerging technologies such that they can be adopted by industry. The maturation of environmental technologies that deliver improved environmental performance allows aviation system growth and associated positive economic impacts.

Recommendation (2):

The Subcommittee continues to endorse Public Private Partnerships like the CLEEN, CAAFI and ASCENT programs to leverage resources and recommends that FAA should continue to prioritize robust funding for these programs.

Finding (3): Noise Research:

The Subcommittee realizes that there is much research that is still necessary to address the ongoing topic of aviation noise. There are increased noise complaints from individuals outside of the day-night noise level (DNL) of 65 dB. The increase in complaints is paired with an increase in public opposition which is resulting in growing political pressure on the FAA as well as litigation in many areas, which is delaying NextGen Deployment. 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. 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.

Recommendation (3)

The Subcommittee strongly supports the prioritization of the noise research that will support informed decision making and enable NextGen Deployment.

Finding (4): Global Leadership

Based on what the FAA has been able to influence and accomplish by having a position of influence at ICAO CAEP, e.g., through the particulate matter standard and the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), the Subcommittee believes that maintaining the U.S. global leadership position at ICAO CAEP is advantageous to U.S. industry. The draconian reduction in funding of approximately \$95 million (more than 50%) in 2019 and subsequent years is obstructive to the FAA being able to meet its goals and being able to maintain current research or evaluate the impact of future entrants on the environment. 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. The proposed budget cuts would require a reduction in staffing of approximately 50%. Staff will be required to maintain the same level of research to inform decision making and advance solutions such that the FAA can attain its goals. The loss of skilled staff could further delay the completion of critical projects. Sufficient financial and personnel resources are required.

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.