

SAS Chair Opening & Report on REDAC Meeting

2021 Fall REDAC SAS Meeting
Virtual
August 10-11, 2021



Full REDAC Meeting Report

- April 21, 2021
- Virtual
- Agenda
 - FAA Address/NextGen Perspectives – Pam Whitley
 - FAA Center for Emerging Concepts & Innovation – James Wilborn
 - COVID-19 Impacts – Industry and FAA
 - FAA & NASA Collaborative Research – Steve Bradford and Akbar Sultan
 - Subcommittee Reports and Discussion



Subcommittee Reports

● Aircraft Safety

- Review of August meeting
- Findings & Recommendations
 - Visibility in the Source of RE&D Funding – 1 Recommendation
 - Ice Crystal Icing – 1 Recommendation
 - Machine Learning/Artificial Intelligence – 2 Recommendations



Subcommittee Reports

- Airports
 - Findings & Recommendations
 - Alternative Firefighting Agent Research – 1 Recommendation
 - Unmanned Aircraft Systems (UAS) – 1 Recommendation



Subcommittee Reports

● Human Factors

- Human Factors for Aircraft Certification – 1 Recommendation
- Improved Methods to Determine Individual Proficiency of Operational Personnel – 1 Recommendation

● NAS Operations

- Research Landscapes – 7 Recommendations
- Weather Related RE&D Funding – 2 Recommendations



Subcommittee Reports

- Environment and Energy
 - Noise Research – 1 Recommendation
 - Public Private Partnerships – 1 Recommendation
 - Sustainable Aviation Fuels (SAFs) – 1 Recommendation
 - Global Leadership – 1 Recommendation



- Final Report of Findings and Recommendation Submitted to Administrator Dickson – May 3, 2021

- Cross Cutting Observations
 - Lessons Learned from COVID
 - Machine Learning & AI in Aviation
 - Sustainability

- Next REDAC Meeting Date: TBD

- Questions?

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April 21, 2021

The Honorable Stephen Dickson
Administrator
Federal Aviation Administration
800 Independence Avenue, SW
Washington, DC 20591

Dear Administrator Dickson:

Attached below please find the findings and recommendations from the Safety, Airports, Environment and Energy, Human Factors, NAS Operations subcommittees from their winter/spring meetings.

The full REDAC also made several cross cutting observations meeting regarding the RE&D program at the recent virtual meeting on April 21, 2020.


Lessons Learned from COVID – As we emerge from the COVID pandemic we recommend a comprehensive review of the lessons learned from the experience and for this to inform research to support system resilience and operational continuity for future disruptive events be they biological, cyber or political.

Machine Learning and AI in Aviation – Several of the subcommittees noted the increased emergence of Machine Learning and AI (ML&AI) and anticipate these tools to be applied in aircraft and ATC systems. The FAA has some unique requirements in its oversight role and there is research required to support the certification and operational approval of these systems and the impact on pilots, controllers and other operational personnel. In addition Machine Learning techniques are expected to be valuable in exploiting the vast pool of operational data to improve the safety and operational performance.

Sustainability – The committee noted the increased national focus on sustainability. The FAA is well positioned to contribute to this with a strong AEE research and solid partnerships with stakeholders. Pressure on aviation will increase as other energy users transfer to sustainable sources and we urge the FAA to take a leadership position in increasing the sustainability of aviation.

We appreciate the opportunity to support the FAA in promoting the safety, efficiency and effectiveness of our national aviation infrastructure. I would be happy to meet to provide further insight on these observations or explore ways in which the REDAC can more effectively support you and the FAA mission.

Thanks for the opportunity to contribute.

Sincerely,


R. John Hansman
Chair, FAA Research, Engineering and Development Advisory Committee

Enclosure