

2024 Current Fiscal Year Report: Research, Engineering, and Development Advisory Committee

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1. Department or Agency

Department of Transportation

2. Fiscal Year

2024

3. Committee or Subcommittee

Research, Engineering, and Development
Advisory Committee

3b. GSA

Committee No.

700

4. Is this New Fiscal Year?

No

5. Current Charter

01/30/1989

6. Expected Renewal Date

7. Expected Term Date

8a. Was Terminated During Fiscal Year?

No

8b. Specific Termination Authority

8c. Actual Term Date

9. Agency Recommendation for Next Fiscal Year

Continue

10a. Legislation Req to Terminate?

Not Applicable

10b. Legislation Pending?

Not Applicable

11. Establishment Authority Statutory (Congress Created)

12. Specific Establishment Authority

49 U.S. Code §44508),
as amended

13. Effective Date

11/03/1988

14. Committee Type

Continuing

14c. Presidential?

No

15. Description of Committee Scientific Technical Program Advisory Board

16a. Total Number of Reports

No Reports for
this Fiscal Year

17a. Open

0

17b. Closed

0

17c. Partially Closed

0

Other Activities

0

17d. Total

0

Meetings and Dates

No Meetings

	Current FY	Next FY
18a(1). Personnel Pmts to Non-Federal Members	\$0.00	\$0.00
18a(2). Personnel Pmts to Federal Members	\$0.00	\$0.00
18a(3). Personnel Pmts to Federal Staff	\$0.00	\$0.00
18a(4). Personnel Pmts to Non-Member Consultants	\$0.00	\$0.00
18b(1). Travel and Per Diem to Non-Federal Members	\$0.00	\$0.00
18b(2). Travel and Per Diem to Federal Members	\$0.00	\$0.00
18b(3). Travel and Per Diem to Federal Staff	\$0.00	\$0.00
18b(4). Travel and Per Diem to Non-member Consultants	\$0.00	\$0.00
18c. Other(rents,user charges, graphics, printing, mail, etc.)	\$0.00	\$0.00
18d. Total	\$0.00	\$0.00
19. Federal Staff Support Years (FTE)	0.00	0.00

20a. How does the Committee accomplish its purpose?

The Research, Engineering, and Development Advisory Committee (REDAC) continues to provide technical program assessments and advice while addressing the scope of the FAA's Research and Development (R&D) Portfolio. The subject matter guidance permits extended evaluation of vital programmatic initiatives and corresponding projects. There are five standing subcommittees that support the REDAC by conducting reviews in the summer and winter for the following research areas: Aircraft Safety, NAS Operations, Environment and Environment,

Airports, and Human Factors. In the summer, the subcommittees work with the sponsors and performers to conduct detailed program reviews. During the winter, the subcommittees conduct detailed reviews of the proposed R&D portfolios. REDAC meets twice each year, in the fall and spring seasons. During the fall meeting, the Committee reviews and provides input on how the FAA should invest its R&D funding in future portfolio development processes. At this time, the Committee provides guidance for the FY+3 R&D Portfolio. At the spring meeting, the Committee reviews the proposed R&D portfolio and provides additional recommendations for the FY+2 R&D portfolio. These activities align with the Agency's submission of appropriate financial and budget information for the same portfolio year. The FAA tracks the implementation of the recommendations in a database. Enhanced automation and technologies are being implemented to optimize the accuracy, analyses, and access to the FAA R&D program content.

20b. How does the Committee balance its membership?

In accordance with the Federal Aviation Administration Research, Engineering, and Development Authorization Act of 1990, Title IX, Subtitle C, Public Law 101-508, dated November 5, 1990, current committee members represent the following categories: Universities and Research Centers- 2; Associations - 1; Consumers-2; Total - 5. As a continued effort to address emerging related technologies, additional subject matter professionals were solicited for Committee inclusion via the Federal Registry.

20c. How frequent and relevant are the Committee Meetings?

REDAC meets an average of two (2) times per year and conducts a number of subcommittee and working group meetings. During FY2023, the Committee provided useful recommendations to: efficiently implement the FAA's Research and Development (R&D) priorities, identify key investment research domain areas, and optimize its funding resources. The advisory committee offered sound advice for the continuous scoping of strategic research domain areas and highlighted the successes of the FAA R&D programs and project accomplishments. Relevant topics addressed research efforts supporting the sustainment of safety and efficacy of complex national airspace system (NAS) operations. These included but were not limited to: design of strategic outlooks for aviation research framework; impacts of environmental issues and FAA national and global leadership ; data driven analyses to improve aviation safety and sustainability through the incorporation of Artificial Intelligence (AI) and Machine Learning (ML); certification guidance parameters in complex NAS operations for software intensive critical systems; longitudinal tracking of future NAS performance; emerging cyber technologies; Unmanned Aircraft Systems (UAS); Advanced Air Mobility (AAM); and Human Factors relevance in aviation. Committee members expert knowledge and actions provide additional opportunities for the FAA to maintain global influence and leverage proficiencies for the production of an effective R&D portfolio. The REDAC Committee and the Agency's existing partnerships continue to promote and broaden the Agency's safety culture and global influence. The Committee and its subcommittees, including ad hoc subcommittees are used by FAA organizations to access the customer community, interested parties, and various subject matter

experts in aviation-related areas.

20d. Why can't the advice or information this committee provides be obtained elsewhere?

Obtaining advice from other non-legislatively mandated sources would be cost-prohibitive, time consuming and less efficient. The REDAC provides the FAA with a cost effective mechanism to optimize the expertise, experiences, and technical guidance essential for sound Research & Development (R&D) execution from the nation's leading subject matter professionals in aviation and aerospace. Regularly scheduled committee meetings permit consistency in technical assessment, planning, and implementation that supports the FAA's development of R&D priorities. The gains from the Committee membership provide a platform that enables the FAA to maintain perspective as the rapid pace of aviation related technologies accelerates. Annually, the FAA involves the Committee in reviewing planned R&D investments and other emerging research areas. The FAA engages the Committee to assist in the coordination of collaborative R&D activities with industry, academia and other government agencies i.e. NASA, DoD, DoE and EPA.

20e. Why is it necessary to close and/or partially closed committee meetings?

All REDAC meetings are open to the public. In unique circumstances, events may occur that require a partially closed session in the interest of safety and to eliminate the inadvertent release of unauthorized Agency information until formal protocols have been met. The Unmanned Aircraft Systems (UAS)/ Advanced Air Mobility (AAM) Integration Research Plan Meeting occurred on November 18, 2022, as a partially closed session.

21. Remarks

During this fiscal year, FAA Acting Administrator personnel changes from B. Nolen and P. Trottenberg to formally selected FAA Administrator M. Whitaker.

Designated Federal Officer

Shelley Yak Director, William J. Hughes Technical Center

Committee Members	Start	End	Occupation	Member Designation
Bertapelle, Joseph	06/09/2011	10/08/2024	Airline Consultant	Special Government Employee (SGE) Member
Hansman, Robert	05/01/2010	10/08/2024	Massachusetts Institute of Technology	Special Government Employee (SGE) Member
Holder, Barbara	03/01/2017	10/01/2024	Embry Riddle Aeronautical University	Special Government Employee (SGE) Member
Oswald, Christopher	12/21/2012	10/08/2024	Airports Council International-North America	Representative Member
Redhead, Ian	08/07/2012	10/08/2024	Kansas City International Airport	Representative Member
Crowley, John [Aircraft Safety]	07/01/2018	07/01/2024	U.S. Army Aeromedical Research Laboratory	Regular Government Employee (RGE) Member
Mangie, James [Aircraft Safety]	07/17/2018	07/17/2024	Delta Air Lines	Representative Member
McVenes, Terry [Aircraft Safety]	08/21/2018	08/21/2024	RTCA	Representative Member
Polland, David [Aircraft Safety]	07/31/2018	07/31/2024	Boeing	Representative Member
Radke, Jeff [Aircraft Safety]	02/10/2017	02/10/2025	Honeywell	Representative Member
Barkowski, Justin [Airports]	02/18/2021	02/18/2025	AAAE	Representative Member
Brammell, Sarah [Airports]	02/09/2018	02/09/2024	Environmental Resources Solutions	Representative Member
Costa, Evanicio [Airports]	03/01/2017	03/01/2025	Boeing	Representative Member
Fee, Frank [Airports]	08/06/2018	08/09/2024	Asphalt Paving	Special Government Employee (SGE) Member

Gongal, Shailesh [Airports]	02/18/2021	02/18/2025	MassPort	Representative Member
Griffin, Matt [Airports]	07/29/2018	07/29/2024	Airport Consultants Council	Representative Member
Hubbard, Sarah [Airports]	02/09/2018	02/09/2024	Purdue University	Special Government Employee (SGE) Member
Juranovic, Eduardo [Airports]	07/29/2018	07/29/2024	Boeing	Representative Member
Mack, James [Airports]	02/18/2021	02/18/2025	Director, Market Development	Representative Member
Marsh, Scott [Airports]	02/18/2021	02/18/2025	Airport Operations-Security Management	Representative Member
Mitchell, Gary [Airports]	10/22/2018	10/22/2024	American Concrete Pavement Association	Representative Member
Pollard, Alfred [Airports]	02/06/2017	02/06/2025	Maryland Aviation Administration - Martin State Airport	Representative Member
Sabatine, Melissa [Airports]	07/29/2018	07/29/2024	American Association of Airport Executives	Representative Member
Sedin, Jeff [Airports]	02/18/2021	02/18/2025	Airline Pilot - 737	Representative Member
Sousa, Andrew [Airports]	02/18/2021	02/18/2025	Airport Operations	Representative Member
Williams, Brett [Airports]	02/18/2021	02/18/2025	Director - Engineering and Technical Support	Representative Member
Alonso, Juan [Environment and Energy]	05/01/2018	05/01/2024	Stanford University	Special Government Employee (SGE) Member
Alterman, Steve [Environment and Energy]	05/01/2018	05/01/2024	Cargo Airlines Association	Representative Member
Duke, Jennifer [Environment and Energy]	12/12/2013	12/12/2025	Pratt and Whitney	Representative Member
Etter, Charles [Environment and Energy]	05/01/2018	05/01/2024	Gulfstream	Representative Member
Hamburg, Steven [Environment and Energy]	05/01/2018	05/01/2024	Environmental Defense Fund	Representative Member
Kosanchick, Melvin [Environment and Energy]	10/23/2017	10/23/2025	Boeing	Representative Member
Lancaster, Sandra [Environment and Energy]	05/01/2018	05/01/2024	Dallas Fort Worth Airport	Representative Member
Leo, Flavio [Environment and Energy]	02/10/2017	02/10/2025	MassPort Authority	Representative Member
Mavris, Dimitri [Environment and Energy]	05/01/2018	05/01/2024	Georgia Institute of Technology	Special Government Employee (SGE) Member
Pagliarello, Melinda [Environment and Energy]	02/10/2017	02/10/2025	Airports Council International - NA	Representative Member

Presti, Susan [Environment and Energy]	05/01/2018	05/01/2024	International Air Cargo Association	Representative Member
Preston, Katherine [Environment and Energy]	05/01/2018	05/01/2024	HMMH	Representative Member
Riegle, Leslie [Environment and Energy]	05/01/2018	05/01/2024	Aerospace Industries Association	Representative Member
Wuebbles, Don [Environment and Energy]	05/01/2016	05/01/2024	Earth, Society and Environment	Special Government Employee (SGE) Member
Young, Nancy [Environment and Energy]	05/01/2018	05/01/2024	Airlines for America	Representative Member
Zelina, Joseph [Environment and Energy]	04/24/2018	04/24/2024	GE Aviation	Representative Member
DeSenti, Chris [Human Factors (REDACTED)]	08/07/2018	08/07/2024	MITRE	Representative Member
Ma, Maggie [Human Factors (REDACTED)]	05/01/2017	05/01/2025	Boeing	Representative Member
McKenney, David [Human Factors (REDACTED)]	07/23/2017	07/23/2025	Consultant/Retired Pilot	Special Government Employee (SGE) Member
Quinn, Cheryl [Human Factors (REDACTED)]	09/03/2019	09/03/2025	NASA	Regular Government Employee (RGE) Member
Smith, Phillip [Human Factors (REDACTED)]	08/07/2018	08/07/2024	Ohio State University	Special Government Employee (SGE) Member
Alcabin, Monica [NAS Operations]	02/27/2019	02/27/2025	BOEING	Representative Member
Holmes, Bruce [NAS Operations]	05/01/2018	05/01/2024	Holmes Consulting	Special Government Employee (SGE) Member
Kuchar, James [NAS Operations]	12/05/2016	12/05/2024	Massachusetts Institute of Technology - Lincoln Laboratory	Special Government Employee (SGE) Member
Steltzer, Emily [NAS Operations]	03/10/2017	03/10/2025	MITRE	Representative Member
Sultan, Akbar [NAS Operations]	09/24/2018	09/24/2024	NASA	Regular Government Employee (RGE) Member

Number of Committee Members Listed: 52

Narrative Description

The REDAC and its standing subcommittees are completely engaged in providing advice and recommendations on FAA's portfolio of Research and Development (R&D) projects. The Full REDAC meets twice each year to review and approve the work of the subcommittees and to provide guidance to the FAA on the portfolio of projects and then again review proposed portfolio measures developed using their guidance. The standing subcommittees do the same activities at a much more detailed level, working with the research performers in the various scientific and technical lines of business. Subcommittees also review the execution of these projects to ensure they are directed toward their original intent, are of high quality, and are achieving satisfactory progress. The reports included in the FY 2023 data were thoroughly discussed and edited to include the REDAC parent committee's deliberations and recommendations. These reports address FAA R&D Portfolios that include forward looking perspectives, thus the Portfolio 2025 referenced in the reports title/name.

What are the most significant program outcomes associated with this committee?

	Checked if Applies
Improvements to health or safety	<input checked="" type="checkbox"/>
Trust in government	<input type="checkbox"/>
Major policy changes	<input type="checkbox"/>
Advance in scientific research	<input checked="" type="checkbox"/>
Effective grant making	<input type="checkbox"/>
Improved service delivery	<input type="checkbox"/>
Increased customer satisfaction	<input type="checkbox"/>
Implementation of laws or regulatory requirements	<input type="checkbox"/>
Other	<input checked="" type="checkbox"/>

Outcome Comments

The Committee's work is required by legislation and meets this requirement through meetings, information sharing, partnering, etc. The Agency relies on the Committee's work to develop its Research and Development (R&D) portfolio. The ad hoc working groups provide the Agency with expertise to help address specific issues.

What are the cost savings associated with this committee?

Checked if Applies

None	<input type="checkbox"/>
Unable to Determine	<input checked="" type="checkbox"/>
Under \$100,000	<input type="checkbox"/>
\$100,000 - \$500,000	<input type="checkbox"/>
\$500,001 - \$1,000,000	<input type="checkbox"/>
\$1,000,001 - \$5,000,000	<input type="checkbox"/>
\$5,000,001 - \$10,000,000	<input type="checkbox"/>
Over \$10,000,000	<input type="checkbox"/>
Cost Savings Other	<input type="checkbox"/>

Cost Savings Comments

The Committee provides the Agency advice from experts outside of the Agency. The members are not compensated for their time.

What is the approximate Number of recommendations produced by this committee for the life of the committee?

1,028

Number of Recommendations Comments

The Committee provides final recommendations to the Administrator twice a year. They also communicate recommendations from the subcommittee/ad hoc working groups and their reports. From 2005 - 2023, the Agency has received 1028 recommendations.

What is the approximate Percentage of these recommendations that have been or will be Fully implemented by the agency?

75%

% of Recommendations Fully Implemented Comments

The Agency receives and reviews all recommendations from the Committee when formulating the Research and Development (R&D) portfolio. Implementation of the guidance is executed as appropriate.

What is the approximate Percentage of these recommendations that have been or will be Partially implemented by the agency?

10%

% of Recommendations Partially Implemented Comments

All of the Committee's recommendations are reviewed and considered for execution when the Agency formulates its research portfolio. Some of the recommendations the Agency can or cannot accept (15%) dependent upon the scope of the recommendation. The recommendations provided by the Committee help the Agency prioritize funding and various research programs.

Does the agency provide the committee with feedback regarding actions taken to implement recommendations or advice offered?

Yes ☒ No ☐ Not Applicable ☐

Agency Feedback Comments

The FAA responds in writing back to the Committee Chair with a letter signed by the FAA Administrator providing the Agency's intended actions pertaining to REDAC's recommendations. Additional feedback is given at the subcommittee meetings where the members are updated on the status of the implementation of the recommendations. The FAA tracks the implementation of all of the recommendations in a database. At each meeting, the FAA reports the status to the recommending subcommittee until the subcommittee votes to close the recommendation.

What other actions has the agency taken as a result of the committee's advice or recommendation?

Checked if Applies

Reorganized Priorities	<input checked="" type="checkbox"/>
Reallocated resources	<input checked="" type="checkbox"/>
Issued new regulation	<input type="checkbox"/>
Proposed legislation	<input type="checkbox"/>
Approved grants or other payments	<input type="checkbox"/>
Other	<input checked="" type="checkbox"/>

Action Comments

The Agency has requested the assistance of the Committee to conduct various studies. Ad hoc working groups may be formed to provide guidance to the Agency on specific topics of interest.

Is the Committee engaged in the review of applications for grants?

No

Grant Review Comments

NA

How is access provided to the information for the Committee's documentation?

Checked if Applies

Contact DFO	<input checked="" type="checkbox"/>
Online Agency Web Site	<input checked="" type="checkbox"/>
Online Committee Web Site	<input checked="" type="checkbox"/>
Online GSA FACA Web Site	<input checked="" type="checkbox"/>
Publications	<input checked="" type="checkbox"/>
Other	<input type="checkbox"/>

Access Comments

N/A