



SUBJECT: Amended Investigative Technologies Aviation Rulemaking Committee

1. **PURPOSE.** This charter establishes the Investigative Technologies Aviation Rulemaking Committee (ARC), according to the Administrator's authority under Title 49 of the United States Code (49 U.S.C) § 106(p)(5) and FAA Reauthorization Act of 2024 (Pub. L. 118-36) (the Act). The sponsor of the ARC is the Associate Administrator for Aviation Safety. This charter outlines the ARC's organization, responsibilities, and tasks.
2. **BACKGROUND.** The FAA is committed to the recovery of flight data, whether it is in-flight data or information collected after an incident or accident. The best way for the FAA to maintain this commitment is by reviewing domestic and international regulations, policies and guidance associated with investigative technology as it relates to the needs of search and rescue authorities, investigative safety boards, and new technological development. The request for more data, changes in international regulations, and technology development may necessitate new regulations, policies, and guidance.

Based on recent recommendations from the Commercial Aviation Safety Team Approach and Landing Misalignment Joint Safety Analysis and Implementation Team, the FAA has amended the charter to seek recommendations on cockpit alerting technologies designed to reduce runway safety events.

The FAA has amended the charter to address several provisions in the Act. Specifically, the FAA will task the ARC to provide recommendations related to sections 333 (Helicopter Safety), and 352 (Flight Data Recovery from Overwater Operations). In addition, the FAA has removed the previous task for the ARC to develop recommendations on "whether to require the retrofitting of all CVRs on all airplanes required to carry both a CVR and [Flight Data Recorders (FDR)] with a CVR capable of 25 hours of recording capability." The FAA is removing this task in response to section 366, which includes a self-implementing mandate for certain aircraft to be retrofitted with a 25-hour cockpit voice recorder (CVR) and directs the FAA to issue a final rule to update FAA regulations, as necessary to conform to this mandate.

3. **OBJECTIVES OF THE ARC.** The ARC will provide a forum for the United States aviation community to discuss, prioritize, and provide recommendations to the FAA concerning requirements on the installation of existing, new, and upgraded investigative technologies that affect applicable airworthiness standards and operating rules. Those investigative technologies include the following:
 - a. CVRs
 - b. Flight Data Recorders (FDRs)
 - c. Underwater Locator Device (ULD)
 - d. Cockpit Image Recorders (CIRs)

- e. Data Link Recorders (DLRs)
- f. Automatic Deployable Flight Recorders (ADFRs)
- g. Automatic Distress Tracking System (ADT)
- h. Global Aeronautical Distress and Safety System (GADSS)

4. TASKS OF THE ARC. The tasks of the ARC are:

- a. Address international harmonization and International Civil Aviation Organization (ICAO) standards.
- b. Discuss and develop recommendations to the FAA based on improvements to safety, impact to the flying public, and economic viability.
- c. Discuss issues and develop recommendations for maintenance, periodic testing, and validation of investigative technology systems.
- d. Discuss issues and develop recommendations based on pending minimum operational performance standards (MOPS) for additional mandatory FDR parameters.
- e. Discuss issues and develop recommendations to the FAA related to National Transportation Safety Board (NTSB) recommendations A-13-12, A-13-13, A-15-1, A-15-2, A-15-3, A-15-4, A-15-7, A-15-8, A-16-34, A-16-35, A-20-27, A-20-28. These issues include::
 - i. Whether to require newly manufactured and existing turbine-powered, nonexperimental, nonrestricted-category aircraft that are not equipped with a FDR or CVR and operating under Parts 91, 121, or 135 to be equipped with a crash-resistant flight recorder system. The crash-resistant flight recorder system should record cockpit audio and images with a view of the cockpit environment to include as much of the outside view as possible, and parametric data per aircraft and system installation, specified in Technical Standard Order (TSO) TSO-C197. (A-13-12 and A-13-13)
 - ii. Whether to require that aircraft used in extended overwater operations under Part 121 or Part 135, which are required to have a CVR and a FDR, be equipped with a tamper-resistant method to broadcast to a ground station sufficient information to establish the location of an aircraft after the flight has terminated due to a crash within six (6) Nautical Miles of the point of impact in consideration of the mandate in section 352 of the Act . (A-15-1)
 - iii. Whether to require aircraft used in extended overwater operations under part 121 or part 135, which are required to have a CVR and FDR, to be equipped with an airframe low frequency underwater locating device that will function for at least 90 days that can be detected by equipment available on military, search and rescue, and salvage assets in consideration of the mandate in section 352 of the Act . (A-15-2)
 - iv. Whether to require newly manufactured aircraft used in extended overwater operations under part 121 and part 135, which are required to have a CVR and FDR, to be equipped with a means to recover mandatory flight data parameters; the means of recovery should not require underwater retrieval. The data should be captured from a triggering event

until the end of the flight and for as long a time period before the triggering event as possible in consideration of the mandate in section 352 of the Act. (A-15-3)

- v. How best to coordinate with other international regulatory authorities and ICAO to harmonize the implementation of requirements specified in A-15-1 and A-15-3. (A-15-4)
 - vi. Whether to require newly manufactured and existing aircraft operating under part 121 and 135, which are required to have a CVR and a FDR, to be equipped with a crash-protected CIR, in compliance with TSO-176a, and to be equipped with an independent power source. (A-15-7 and A-15-8)
 - vii. Whether to require part 135 operators to install flight data recording devices capable of supporting a flight data monitoring program. (A-16-34)
 - viii. Whether to require part 135 operators to establish a structured flight data monitoring program that reviews all available data sources to identify deviations from established norms and procedures and other potential safety issues. (A-16-35)
 - ix. Whether to require manufacturers of newly manufactured turbine-powered helicopters not equipped with a FDR and CVR, to install a crash-resistant flight recorder system that records cockpit audio and images with a view of the cockpit environment to include as much of the outside view as possible and parametric data per aircraft and system installation, as specified in TSO-C197. (A-20-27)
 - x. Whether to require manufacturers of newly manufactured turbine-powered helicopters equipped with a FDR and CVR, to install a crash-protected CIR system compliant with TSO-C176a or equivalent. The CIR should be equipped with an independent power source consistent with that required for CVRs in 14 CFR § 29.1457. (A-20-28)
 - xi. Whether to require manufacturers of existing turbine-powered helicopters not equipped with a FDR or CVR, to provide a means to install a crash-resistant flight recorder system that records cockpit audio and images with a view of the cockpit environment to include as much of the outside view as possible and parametric data per aircraft and system installation, as specified in Technical Standard Order C197. (A-20-29)
 - xii. Whether to require existing turbine-powered helicopters equipped with a FDR and CVR, to install a crash-protected CIR system that is compliant with TSO-C176a or equivalent. The CIR system should be equipped with an independent power source consistent with that required for CVRs in 14 CFR § 29.1457. (A-20-30)
- f. Discuss issues and develop a recommendation on whether to allow the use of ADFRs that may currently be contrary to FAA regulations.
 - g. Discuss and consider alternate approaches for promoting voluntary installations of FDRs, CVRs, and CIRs for aircraft and operations where there may not be a mandatory installation requirement.

- h. Develop and recommend to the FAA draft advisory circular language and a strategy, process, and schedule for the implementation of new or revised criteria.
- i. Develop and recommend to the FAA updated guidance material, notices, handbooks, and other relevant material for investigative technologies.
- j. Develop and recommend to the FAA updated guidance material, notices, and handbooks and other relevant material on how FDRs, CVRs, and CIRs can be integrated into a voluntary or required Safety Management System program.
- k. Provide recommendations on how to require cockpit alerting technologies designed to reduce runway safety events. These technologies alert the flight crew to take corrective actions when the aircraft is aligned to a surface that is not a runway, when the aircraft is aligned with the incorrect runway, or when a runway is too short.
- l. As prescribed in section 333 of the Act, Helicopter Safety, assess and review the need for changes to safety requirements related to FDRs, flight data monitoring, and terrain awareness and warning systems for turbine-powered rotorcraft certificated for six or more passenger seats; and, as appropriate, make recommendations for legislative or regulatory changes to improve safety. In conducting the assessment and review, consider the following:
 - i. Applicable NTSB recommendations; and
 - ii. Operational requirements and safety considerations for operations under parts 121 and 135.
- m. In addition to tasks 4.e.ii, 4.e.iii, and 4.e.iv of this charter, discuss and develop the following:
 - i. Recommendations on whether to apply the requirements regarding flight data recovery in section 352 of the Act to other aircraft in addition to those that meet the definition of “applicable aircraft” in Section 352.
 - ii. Quantitative cost and benefit data for the inclusion of flight data recovery technologies for aircraft that meet the definition of “applicable aircraft” in section 352 and other aircraft under consideration.
 - iii. A qualitative description of the potential impacts for the inclusion of flight data recovery technologies for aircraft that meet the definition of “applicable aircraft” in section 352 and other aircraft under consideration.
- n. Discuss issues and develop the following:
 - i. Recommendation on whether to expand the retrofit requirement in section 366 of the Act to require retrofit of aircraft that are specified in the proposed rule for newly manufactured aircraft and not covered by section 366.
 - ii. Quantitative cost and benefit data for retrofitting “covered aircraft” as defined in section 366 and other aircraft under consideration.
 - iii. A qualitative description of the potential impacts for retrofitting “covered aircraft” as defined in section 366 and other aircraft under consideration .
- o. For any recommendation to change regulatory requirements, provide qualitative benefit-cost description, quantitative benefit and cost data, and compliance trade-offs.
- p. Within 16 months of the first meeting of the ARC after the effective date of this charter, submit an interim recommendation report.

- q. Within 22 months of the first meeting of the ARC after the effective date of the charter, submit a final recommendation report.
 - i. The ARC's Industry Co-Chair sends the recommendation report to the ARC's FAA Co-Chair, and the Executive Director of the Office of Rulemaking.
 - ii. The ARC's FAA Co-Chair determines when the recommendation report and records, pursuant to paragraph (8), will be made available for public release.
- r. The FAA may assign additional taskings related to investigative technologies.

5. ARC PROCEDURES.

- a. The ARC acts solely in an advisory capacity by advising and providing written recommendations to the ARC's FAA Co-Chair.
- b. The ARC may propose related follow-on tasks outside the stated scope of the ARC to the ARC's FAA Co-Chair for consideration.
- c. The ARC may reconvene following the submission of the recommendation report for the purposes of providing advice and assistance to the FAA, at the discretion of the ARC's FAA Co-Chair, provided the charter is still in effect.

6. ARC ORGANIZATION, MEMBERSHIP, AND ADMINISTRATION. The FAA will set up an ARC of members from the aviation community. Members will be selected based on their familiarity and experience with investigative technologies operational analysis and regulatory compliance. Membership will be balanced in viewpoints, interests, and knowledge of the ARC's objectives and scope.

The August 13, 2014, Office of Management and Budget (OMB) guidance, "Revised Guidance on Appointment of Lobbyists to Federal Advisory Committees, Boards, and Commissions" (79 FR 47482), bans registered lobbyists from participating on Agency Boards and Commissions if participating in their "individual capacity." The revised guidance allows registered lobbyists to participate on Agency Boards and Commissions in a "representative capacity" for the "express purpose of providing a committee with the views of a nongovernmental entity, a recognizable group of persons or nongovernmental entities (an industry, sector, labor unions, or environmental groups, etc.) or state or local government." For further information, refer to the OMB Guidance at 79 FR 47482.

Membership is limited to promote discussion. Attendance, active participation, and commitment by members is essential for achieving the objectives and tasks. When necessary, the ARC may set up specialized and temporary working groups that include at least one ARC member and invited subject matter experts from industry and government.

FAA and other Federal government agency subject matter experts may be requested to participate as Observers and to provide technical support to the ARC members.

- a. The Sponsor, the Associate Administrator for Aviation Safety, will designate the ARC's FAA Co-Chair who will:
 - 1) Select and appoint industry members and the FAA participants,
 - 2) Select the ARC's Industry Co-Chair from the membership of the ARC,
 - 3) Ensure FAA participation and support from all affected lines-of-business,
 - 4) Notify members of the time and place for each meeting, and
 - 5) Receive any status report and the recommendations report.
 - b. The Industry Co-Chair will be appointed from the aviation community. Once appointed, the Industry Co-Chair will:
 - 1) Coordinate required ARC meetings in order to meet the objectives and timelines,
 - 2) Establish and distribute meeting agendas in a timely manner,
 - 3) Keep meeting notes, if deemed necessary,
 - 4) Perform other responsibilities as required to ensure the objectives are met,
 - 5) Provide status reports, as requested, in writing to the FAA Co-Chair, and
 - 6) Submit the recommendation report to the FAA Co-Chair and the Executive Director of the Office of Rulemaking.
7. **PUBLIC PARTICIPATION.** Meetings are not open to the public. Persons or organizations outside the ARC who wish to attend a meeting must secure approval in advance of the meeting from the Industry Co-Chair and the FAA Co-Chair.
8. **AVAILABILITY OF RECORDS.** Subject to applicable Freedom of Information Act Exemptions pursuant to Title 5, U.S.C., §552, the FAA will make records provided by the ARC to the FAA available for public inspection and copying. Available records will be located at the Flight Standard Service Office, FAA Headquarters, 800 Independence Ave. SW, Washington, D.C. 20591. Fees will be charged for information furnished to the public according to the fee schedule published in Title 49 of the Code of Federal Regulations, part 7.

This charter is available on the FAA Committee Database website at:

http://www.faa.gov/regulations_policies/rulemaking/committees/documents/.

9. **DISTRIBUTION.** This charter is distributed to: Office of the Associate Administrator for Aviation Safety, Office of the Chief Operating Officer of the Air Traffic Organization, the Office of the Chief Counsel, the Office of Assistant Administrator for Policy, International Affairs, and Environment, Office of the Assistant Administrator for NextGen, and the Office of Rulemaking.

10. EFFECTIVE DATE AND DURATION. The ARC is effective upon issuance of this charter and will remain in existence until December 31, 2025, unless the charter is sooner suspended, terminated, or extended by the Administrator.

Issued in Washington, D.C. on December 12, 2024.

A handwritten signature in black ink, appearing to read "M. Whitaker", with a stylized, cursive script.

Michael G. Whitaker
Administrator