The National Academies of
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EMERGING TRENDS IN AVIATION SAFETY

Meeting Agenda – January 28, 2022

ZoomGov Meeting: https://nas-sec.zoomgov.com/j/1619919625

Phone: +1 833 568 8864 Meeting ID: 161 991 9625

Meeting Objectives:

- *Understand critical issues in commercial aviation safety, including safety culture and safety certification.*
- *Understand aviation safety data collection and sharing outside of CAST and ASIAS.*

**** To facilitate engaging discussion, please remain on video whenever possible during the meeting.**

MEETING OPEN TO THE PUBLIC

1:00 – 3:30PM **Welcome and Public Briefings from Key Stakeholders**

Chair Amy Pritchett welcomes the committee and briefly introduces the speakers

- 1:00 Heather Danner, Acting Deputy Executive Director, Office of Accident Investigation and Prevention, FAA
- 1:30 Jeffery Schroeder, Chief Scientific and Technical Advisor, Flight Simulation Systems, and Barbara Adams, Acting Manager of the Training and FSTD Policy Development Section in the AIR Transportation Division, FAA
- 2:00 Gaetano Sciortino, Deputy Director, Strategic Initiatives, Compliance and Airworthiness Division, FAA
- 2:30 Terry McVenes – President and CEO of the Radio Technical Commission for Aeronautics
- 3:00 James Klinect – CEO of the Line Operation Safety Audit (LOSA) Collaborative

CLOSED SESSION

3:30 - 5:00PM **Committee Deliberations**

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Statement of Task

In response to a request from Congress, this project will "identify, categorize, and analyze emerging safety trends in air transportation." The committee will review data and analyses of all relevant sources of information, such as operational data being used by the Federal Aviation Administration (FAA) and the air transport industry to monitor for potential safety concerns; government and industry voluntary aviation safety reporting systems; FAA's annual safety culture assessment; and other sources the committee deems appropriate, including National Transportation Safety Board accident investigations; FAA investigations of accidents and incidents; air carrier incidents and safety indicators; and international investigations of accidents and incidents, including information from foreign authorities and the International Civil Aviation Organization. The committee will assess whether these available sources of information are being analyzed in ways that can help identify emerging safety risks as the aviation system evolves and whether other information should be collected and analyzed for this purpose, such as data on accident precursors. The committee may engage in its own empirical analyses of databases.

The project will focus primarily on commercial air transportation sector, but will also include other current and prospective users of the national airspace system that could pose risks to commercial aviation. The committee will draw on the results of FAA's annual internal safety culture assessments and also advise the agency on data and approaches for assessing safety culture to assure that FAA is identifying emerging risks to commercial aviation and sharing that information throughout the agency and with the public.

The project will produce an initial report in mid-2022, biennial reports through 2030, and a final report in 2031. It is expected that the committee's first report will include a high-level assessment of the efficacy of domestic public and private sources of data and information for identifying and assessing emerging risks and advise on data gaps that need filling. The first report is also expected to include the approach the committee intends to pursue in subsequent biennial reports to assess the robustness of domestic and international data sources and processes for analyzing them for the purpose of identifying emerging risks to commercial air transportation. In addition to documenting its study findings in each report, the committee may offer advice to Congress, FAA, industry, and others on options for improving means for identifying, monitoring, understanding, and addressing emerging aviation safety risks, including supplementing, improving, and harmonizing existing databases, reporting systems, and analysis methods.

EMERGING TRENDS IN AVIATION SAFETY

From the Consolidated Appropriations Act, 2021

SEC. 132. EMERGING SAFETY TRENDS IN AVIATION.

(a) ***General*** *—Not later than 180 days after the date of enactment of this title, the Administrator shall enter into an agreement with the Transportation Research Board for the purpose of developing an annual report identifying, categorizing, and analyzing emerging safety trends in air transportation.*

(b) ***Factors*** *—The emerging safety trends report should be based on the following data:*

(1) The National Transportation Safety Board's investigation of accidents under section 1132 of title 49, United States Code 554.

(2) The Administrator's Investigations of accidents under section 40113 of title 49, United States Code.

(3) Information provided by air operators pursuant to safety management systems.

(4) International investigation of accidents and incidents, including reports, data, and information from foreign authorities and ICAO.

(5) Other sources deemed appropriate for establishing emerging safety trends in the aviation sector, including the FAA's annual safety culture assessment required under subsection (c)

(c) ***Safety Culture Assessment*** *- The Administrator shall conduct an annual safety culture assessment through fiscal year 2031, which shall include surveying all employees in the FAA's Aviation Safety organization (AVS) to determine the employees' collective opinion regarding, and to assess the health of, AVS' safety culture and implementation of any voluntary safety reporting program.*

(d) ***Existing Reporting System*** *– The Executive Director of the Transportation Research Board, in consultation with the Secretary of Transportation and Administrator, may take into account and, as necessary, harmonize data and sources from existing reporting systems within the Department of Transportation and FAA.*

(e) ***Biennial Report To Congress*** *– One year after the Administrator enters into the agreement with the Transportation Research Board as set forth in subsection (a) and biennially thereafter through fiscal year 2031, the Executive Director, in consultation with the Secretary and Administrator, shall submit to the congressional committees of jurisdiction a report identifying the emerging safety trends in air transportation.*

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Speaker Bios

Barbara Adams is the Acting Manager of the Training and FSTD Policy Development Section in the AIR Transportation Division at FAA. Her current responsibilities include serving as the subject matter expert for regulations and policy surrounding the multiengine airplane Airline Transport Pilot (ATP) certificate and new entrant aircraft and technologies to air carrier operations. Prior to this detail she served as a Senior Advisor to the Executive Director for Flight Standards, and has held several FAA positions within the Flight Standards Service, Aircraft Certification Service, and the Office of Accident Investigation. She also has supported multiple FAA Aviation Rulemaking Committees (ARCs) as a subject matter expert that have influenced pilot certification, qualification and training. Each ARC is made up of industry representatives and subject matter experts in the subject matter the ARC was formed to address. The First Officer Qualification ARC was tasked to evaluate a potential gap between the training and experience of a pilot that holds a commercial pilot certificate and instrument rating and the qualifications, training, and experience of a pilot that would serve as a first officer for an airline and provide recommendations to the FAA. With the ARC recommendation report and Congressional direction, Ms. Adams was the Team Lead for the Pilot Certification and Qualification Requirements for Air Carrier Operations Rulemaking team, which established training requirements for the ATP certificate and revised the minimum qualifications to serve as a first officer in the United States. At present, she is the U.S. Member to the ICAO Personnel Training and Licensing Panel, which was formed in 2021. Prior to the panel, she was the FAA representative to the ICAO's Competency Based Training and Assessment (CBTA) Task Force – Pilot Team. Ms. Adams earned a BBA in Aviation Management and a MS in Aviation from the University of North Dakota.

Heather Danner is the Acting Deputy Executive Director, Office of Accident Investigation and Prevention at the FAA. She has focused her efforts on bringing clarity to the AQS role, improving transparency and collaboration across the enterprise, and applying systems engineering principals to the business functions of AVS. Prior to joining the FAA, she spent 18 years with The MITRE Corporation, where she led projects across both the Air Traffic Organization and Aviation Safety organization. Her areas of expertise included strategy development, public/private partnership, airspace and procedure design, simulation and modeling, and data analysis. The last nine years of her career were spent in portfolio management roles, applying skills of client relationship management, strategic advising and planning, risk identification and mitigation, contract management, programmatic and finance tracking, quality assurance, communication, and stakeholder engagement. In her last few years with MITRE, she served as the Portfolio Manager supporting Aviation Safety. In this role she directed activities in support of the Aviation Safety Information Analysis and Sharing (ASIAS) program, a public/private partnership harnessing the power of voluntary data sharing and big data analytics to identify systemic risks. Heather also led MITRE activities in support of the Aviation Safety Strategic Plan, the development of the AIR Blueprint for transformation, and initial work to inform the AIR Comprehensive Strategic Plan. She holds a Master of Science degree in Systems Engineering from University of Virginia and a Bachelor of Music Education from Carson-Newman University with a concentration in physics.

James Klinect is the CEO of the Line Operation Safety Audit (LOSA) Collaborative. He received his Doctorate at The University of Texas at Austin where he served as the project manager, leading the development of TEM and

LOSA with his mentor Dr. Robert Helmreich. He has authored and co-authored several publications and presentations, including the aviation industry's recognized source material on LOSA (ICAO Document 9803 and FAA Advisory Circular 120.90). His LOSA and TEM research is regularly cited and used in academic journals, regulatory guidance, airline safety management systems and pilot training curriculum.

Terry McVenes is the President and CEO of the Radio Technical Commission for Aeronautics (RTCA). Prior to this position, he spent a decade at The Boeing Company, where he held the position of Director of System Safety and Regulatory Affairs. He has a long history with aviation standards, as he has served as a member and industry co-chair of the FAA Voluntary Aviation Safety Information Sharing (VASIS) Aviation Rulemaking Committee. He's been an aviator with multiple type-ratings and over 17,000 flight hours over the past 30 years. He has been a Board Member of Flight Safety Foundation with the Board of Governors, and a Board Member of the SKYbrary Supervisory Board.

Jeffery Schroeder is the Chief Scientific and Technical Advisor (CSTA) for Flight Simulation Systems at FAA, where he applies technologies to create suitable flight environments, as well as the best practices on their use. He has 35 years of experience in and extensive publications on ground and in-flight simulation, flight dynamics, control systems, cockpit displays, human factors, and air traffic management. He was a main contributor in the development of the FAA's rules and guidance for aircraft upset training, has trained the FAA's inspectors at the FAA Academy for upset training program approval, and he now advises scores of airlines in the development and refinement of their upset training programs. Dr. Schroeder's principal activities include aircraft upset training practices, stabilized approach refinement, and flight simulator motion cueing research. Before joining the FAA, Dr. Schroeder spent over 20 years at the NASA Ames Research Center. While there, he conducted a variety of piloted flight simulation studies with special emphasis on motion fidelity in the world's largest flight simulator. Dr. Schroeder has taught numerous graduate and undergraduate courses in dynamics and control at Stanford and San Jose State University. He is an Associate Fellow of the American Institute of Aeronautics and Astronautics, and a Fellow of The Royal Aeronautical Society. Jeffery Schroeder earned a B.S. and an M.S. in Aeronautics & Astronautics from Purdue University. He earned his Ph.D. in Aeronautics & Astronautics at Stanford University.

Gaetano (Tom) Sciortino is the Deputy Director for Strategic Initiatives in the Compliance and Airworthiness Division (AIR-700) within FAA's Aircraft Certification Service. His background includes 45 years of aviation experience, including 20 years with the FAA. Currently, he oversees all aircraft certification branches in the United States. Some of Mr. Sciortino's accomplishments include overseeing the FAA Engine & Airframe-Engine Integration Safety Summit, streamlining the FAA issue paper process, and developing bilateral relationship and validation process improvements with Canada and the European Union. He also was the primary author for the 98-page report that summarized the FAA's review of the Boeing 737 MAX, the lessons learned to prevent future accidents, and how to return the airliner back to service safely. In February 2018 Mr. Sciortino was promoted to AIR-700 Deputy Director after working for six years as the New York Aircraft Certification Branch manager. Previous FAA assignments include serving as an FAA international field representative in Brussels, Belgium, where he managed FAA priorities and policies throughout Europe and the Middle East, including playing a major role in the implementation of the bilateral agreement between the United States and the European Union. Mr. Sciortino joined the FAA in 2001 after working as an FAA designated airworthiness representative, vice president

of operations for an aircraft completion center, chief inspector/systems analyst for a scheduled air carrier, and as foreman/inspector for an on-demand charter and sightseeing operator in New York City.