



Committee on Transportation and Infrastructure
U.S. House of Representatives
Washington, DC 20515

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February 2, 2023

SUMMARY OF SUBJECT MATTER

TO: Members, Committee on Transportation and Infrastructure
FROM: Staff, Subcommittee on Aviation
RE: Full Committee Hearing on “FAA Reauthorization: Enhancing America’s Gold Standard in Aviation Safety”

I. PURPOSE

The Committee on Transportation and Infrastructure will meet on Tuesday, February 7, 2023, at 10:00 a.m. ET in Room 2167 of the Rayburn House Office Building for a hearing titled, “*FAA Reauthorization: Enhancing America’s Gold Standard in Aviation Safety*.” The hearing will focus on improving safety across the National Airspace System (NAS) in advance of Congress acting to reauthorize the Federal Aviation Administration’s (FAA) statutory authorities which expire on October 1, 2023. Members will receive testimony from the FAA, the National Transportation Safety Board (NTSB), General Aviation Manufacturers Association (GAMA), National Business Aviation Association (NBAA), the MITRE Corporation, and the Air Line Pilots Association (ALPA).

II. BACKGROUND

The primary mission of the FAA is ensuring civil aviation safety.¹ The FAA has the responsibility to certify, monitor, and regulate the safety and operations of the civil aviation sector, including airlines, general aviation, unmanned aircraft systems (UAS), airports, commercial space transportation, repair stations, and aircraft manufacturers, as well as establish licensing and training requirements for pilots and other aviation related professionals.² Congress periodically reauthorizes the FAA and other Federal civil aviation programs through an FAA

¹ *Mission*, FAA, available at <https://www.faa.gov/about/mission>.

² See 49 U.S.C. § 106(g).

reauthorization bill. The FAA was last reauthorized when Congress passed and the President signed the *FAA Reauthorization Act of 2018*, which provisions expire on October 1, 2023.³

Aviation safety in the United States has greatly improved over the last decade. Only three passengers on scheduled domestic passenger air carriers have died as the result of aircraft accidents since 2012 compared to the decade prior, which saw 140 passenger fatalities.⁴ In 11 of the last 13 years, there have been no passenger fatalities in scheduled United States passenger air carrier operations.⁵ This improvement in safety occurred despite increasing passenger enplanements, which grew by 50 percent between 2002 and 2019.⁶

General aviation has also become safer, with the number of fatal and nonfatal accidents trending downward since 2000.⁷ Experts suggest this has been due to numerous factors, including advancements in aircraft equipment and technologies, improved pilot training, improved education programs, and advocacy efforts across the general aviation community.⁸ Preliminary general aviation safety data shows the fatality rate per 100,000 flight hours has steadily declined in the past few decades.⁹ The average rate from 2012 to 2020 was 1.07, while the preceding decades were 1.29 and 1.49 respectively.¹⁰

Despite these marked advancements, significant room for improvement remains. In 2021, the NTSB reported 1,157 general aviation accidents, 43 commuter and on-demand accidents, and 24 commercial air carrier accidents.¹¹ An accident rate of 2-3 accidents per month for scheduled air carriers suggests there still exist potential safety risks that could result in injuries or fatalities if left unaddressed.¹²

Subsequently, the FAA and Congress, in partnership with industry, labor, and the travelling public, have fought to make air travel as safe as possible. Some efforts to improve aviation safety include the requirement for and implementation of Safety Management Systems (SMSs), the introduction of the FAA Compliance Program, and the Alaska Aviation Safety Initiative. In the *FAA Reauthorization Act of 2018*, Congress included more than 90 safety-focused provisions, underpinning the fact that safety in the aviation industry is a top priority in

³ *FAA Reauthorization Act of 2018*, Pub. L. No. 115-254, 132 Stat. 3186.

⁴ NTSB, U.S. CIVIL AVIATION STATISTICS (2021), available at <https://www.nts.gov/safety/Pages/research.aspx>, (last visited Jan. 31, 2023) [hereinafter *Civil Aviation Statistics*].

⁵ *Id.*

⁶ *Id.*

⁷ BUREAU OF TRANSP. STATISTICS, U.S. GENERAL AVIATION SAFETY DATA, available at <https://www.bts.gov/content/us-general-aviation-safety-data> (last visited Jan. 31, 2023) [hereinafter *General Aviation Safety Data*].

⁸ Hearing Before the Subcomm. on Aviation & Operations of the Senate Comm. on Commerce, Sci. & Transp., 114th Cong., (Apr. 28, 2015) (statement of Margaret Gilligan, Assoc. Admin. for Aviation Safety, FAA); see also John Zimmerman, *General Aviation Safety Trends: What Should We Worry About?*, PLANE&PILOT MAGAZINE (Dec. 13, 2021), available at <https://www.planeandpilotmag.com/news/pilot-talk/2021/12/13/general-aviation-safety-trends-what-should-we-worry-about/>; see also *General Aviation Safety Continues To Improve*, PLANE&PILOT MAGAZINE, (Dec. 18, 2019), available at <https://www.planeandpilotmag.com/article/general-aviation-safety-continue-improve/>.

⁹ *General Aviation Safety Data*, *supra* note 7.

¹⁰ *Id.*

¹¹ *Civil Aviation Statistics*, *supra* note 4.

¹² See *id.*

the United States.¹³ As the Committee begins to draft the next FAA reauthorization bill, Members will have the opportunity to examine and evaluate FAA safety programs, guidance, and procedures to determine what legislative changes the Committee should consider in the ongoing effort to improve safety and uphold our Nation’s gold standard for aviation safety in a global industry.

“THE GOLD STANDARD” OF SAFETY

The previous conventional wisdom for regulating aviation safety was a reactionary posture that focused on addressing safety concerns in the wake of aviation accidents. More recently, the FAA has sought to be more proactive with certain aspects of safety oversight and regulation by participating in programs and initiatives which would ideally prevent future incidents and accidents. Examples of these proactive preventative efforts include the introduction of SMSs, the FAA Compliance Program, Aviation Safety Information Analysis and Sharing (ASIAS), and the establishment of initiatives focused on specific sectors of aviation like the Commercial Aviation Safety Team (CAST) and the General Aviation Joint Steering Committee (GAJSC). In aggregate, these safety efforts have fostered a more collaborative approach with aviation stakeholders, designed to improve communication and problem-solving when addressing potential safety hazards.¹⁴

Safety Management System (SMS)

An SMS is a “formal, top-down, organization wide-approach to managing safety risk and assuring the effectiveness of safety risk controls.”¹⁵ In 2015, the FAA promulgated a rule requiring part 121 commercial aviation operators to develop and implement SMSs across their organizations and outlined the basic requirements for those systems.¹⁶ Subsequently, and partially in response to a Congressional directive in the *Aircraft Certification Reform and Accountability Act* (P.L. 116-260), the FAA issued a Notice of Proposed Rulemaking (NPRM) requiring SMSs for large aircraft manufacturers, part 135 air carriers, and certain general aviation air tour operators.¹⁷ Additionally, the FAA is in the process of issuing a final rule requiring certain airports to develop and maintain an SMS.¹⁸

Compliance Program

Users of the NAS are required to adhere to all applicable laws and regulations set forth by the Federal government, including applicable directives and orders issued by the FAA. As the

¹³ *FAA Reauthorization Act of 2018*, Pub. L. No. 115-254, 132 Stat. 3186.

¹⁴ *United States State Safety Program (SSP)*, FAA, available at https://www.faa.gov/sites/faa.gov/files/about/initiatives/sms/reference_library/AVS-210503-001-Supporting-US_State_Safety_Program.pdf.

¹⁵ *Safety Management System (SMS)*, FAA, available at <https://www.faa.gov/about/initiatives/sms>.

¹⁶ Safety Management Systems for Domestic, Flag, and Supplemental Operations Certificate Holders, 80 Fed. Reg. 1,307 (Jan. 8, 2015) (to be codified at 14 C.F.R. 5 & 119).

¹⁷ Safety Management Systems, 88 Fed. Reg. 1,932 (Jan. 11, 2023) (to be codified at 14 C.F.R., 14 C.F.R 5, 21, 91,119, 121,135), available at <https://www.federalregister.gov/d/2022-28583>.

¹⁸ Safety Management System for Certificated Airports, 86 Fed. Reg. 47,266 (Aug. 24, 2021) (to be codified at 14 C.F.R. 139), available at <https://www.federalregister.gov/d/2021-17847>.

aviation sector has evolved and become more complex however, the FAA has come to recognize that a purely punitive strategy can potentially hinder the reporting of serious problems.¹⁹ Therefore, to avoid and preempt serious safety risks, the FAA has incentivized the voluntary disclosure of mistakes, even inadvertent ones, by otherwise safe operators to improve aviation safety by stimulating self-improvement, information sharing, and expediting corrections.²⁰ To advance this regulatory approach, the FAA established the Compliance Program, which emphasizes a culture of voluntary adherence to safety standards and self-reporting errors in order to receive fair consideration in return, and reserving legal enforcement actions for when absolutely necessary.²¹

Aviation Safety Information Analysis and Sharing

Because the United States has taken a systemwide approach to ensuring aviation safety, the FAA has prioritized the ability of all users of the NAS to share in collecting and disseminating pertinent safety information.²² To create a process for open and free information sharing, the FAA introduced the Aviation Safety Information Analysis and Sharing (ASIAS) system.²³ This program is a comprehensive database of safety data and analysis from government and industry sources, including data from voluntary sources.²⁴ Many stakeholders from the general aviation industry, aircraft maintenance and repair stations, manufacturers and universities participate in ASIAS, and more than 99 percent of the voluntary information has been provided by United States air carriers.²⁵ The FAA intends to integrate more stakeholders into ASIAS, such as the corporate/business communities, light general aviation community, and the helicopter industry, as the system continues to evolve.²⁶

Commercial Aviation Safety Team and General Aviation Joint Steering Committee

In 1998, the FAA launched an initiative known as “Safer Skies,” which was intended to reduce fatal accidents by 2007.²⁷ To achieve this goal, the FAA established the Commercial Aviation Safety Team (CAST)²⁸ and the General Aviation Joint Steering Committee (GAJSC).²⁹ The CAST is comprised of representatives from the FAA, NASA, and industry stakeholders, and works to reduce commercial aviation fatality risks through data collection and analysis. As part of this effort, the FAA and NASA have the goal of transitioning to a “prognostic safety

¹⁹ *Compliance Program*, FAA, available at <https://www.faa.gov/about/initiatives/cp>.

²⁰ *Id.*

²¹ *Id.*

²² See *Aviation Safety Information Analysis and Sharing*, FAA (Apr. 8, 2019), available at <https://www.faa.gov/newsroom/aviation-safety-information-analysis-and-sharing-program-1>.

²³ *Id.*

²⁴ *Id.*

²⁵ *Id.*

²⁶ *Id.*

²⁷ U.S. GOV'T ACCOUNTABILITY OFF., GAO/RCED-00-1, AVIATION SAFETY: SAFER SKIES INITIATIVE HAS TAKEN INITIAL STEPS TO REDUCE ACCIDENT RATES BY 2007 (2000), available at <https://www.gao.gov/assets/rced-00-111.pdf>.

²⁸ *History*, COMMERCIAL AVIATION SAFETY TEAM (2022), available at https://www.cast-safety.org/apex/f?p=102:1:8843473943394::NO::P1_X:history.

²⁹ *General Aviation Safety*, FAA (July 30, 2018), available at <https://www.faa.gov/newsroom/general-aviation-safety>.

analysis.”³⁰ As the aviation system’s safety rates have greatly improved over the decades, CAST has moved beyond the “historic approach of examining past accident data to a proactive approach that focuses on detecting risk and implementing strategies before accidents or serious incidents occur.”³¹ The safety enhancements that were implemented as a result of the CAST contributed to reducing the fatality risk for commercial aviation in the United States by 83 percent between 1998 and 2008.³²

The GAJSC “works to improve general aviation safety through data-driven risk reduction efforts focused on education, training, and enabling new equipment in general aviation aircraft.”³³ The GAJSC, which is also comprised of representatives from government and industry, utilizes a consensus-based approach and safety data analysis to develop strategies for the reduction of fatal general aviation accidents.³⁴

Alaska Aviation Safety Initiative

Aviation in Alaska is a vital necessity given that 82 percent of Alaskan communities are inaccessible by road.³⁵ However, aviation operators in Alaska face unique challenges compared to operators in the contiguous states—due in large part to the state’s challenging geography, unpredictable weather, and relative lack of aviation and air traffic control infrastructure. In 2021, the FAA initiated the Alaska Aviation Safety Initiative (FAASI).³⁶ In consultation with Alaska aviation community stakeholders, the FAA developed 11 initial recommendations to address safety hazards specific to Alaska. These include enhancing weather reporting capabilities by installing Automated Weather Observing System (AWOS) at airports, promoting education and outreach regarding the benefits of Automatic Dependent Surveillance-Broadcast Out (ADS-B Out) equipage in certain airspace, and maximizing safety collaboration with operators in Alaska.³⁷ Attention to Alaska’s unique circumstances is not new however; previous similar efforts have fallen far short of initial expectations, necessitating Congressional oversight.³⁸

AIRCRAFT CERTIFICATION, MAINTENANCE, AND OPERATIONS

The FAA issues type, production, and airworthiness certificates to aviation manufacturers in the United States and aviation products, in order to ensure the safety of the aircraft that are

³⁰ COMMERCIAL AVIATION SAFETY TEAM (2022), available at <https://www.cast-safety.org/apex/f?p=102:1> [hereinafter CAST].

³¹ *Commercial Aviation Safety Team*, FAA (Sept. 3, 2021), available at <https://www.faa.gov/newsroom/commercial-aviation-safety-team>.

³² CAST, *supra* note 30.

³³ *About Us*, GENERAL AVIATION J. STEERING COMM. (2022), available at <http://www.gajsc.org/about-us/>.

³⁴ *Id.*

³⁵ *Statewide Aviation*, ALASKA DEPT. OF TRANSP. AND PUB. FACILITIES, available at <https://dot.alaska.gov/stwdav/>.

³⁶ FAA, FY22 FAASI PROGRESS REPORT (2022), available at <https://www.faa.gov/sites/faa.gov/files/2022-09/FY22-FAASI-Progress-Report.pdf>.

³⁷ FAA, 2022 FAASI ROADMAP (2022), available at <https://www.faa.gov/sites/faa.gov/files/2022-02/FAASI%20Roadmap.pdf>.

³⁸ Colleen Mondor, *The FAA’s latest Alaska aviation safety report harkens back to a whole lot of history*, THE MIDNIGHT SUN, (Nov. 18, 2021), available at <https://midnightsunak.com/2021/11/18/mondor-the-faas-latest-report-harkens-back-to-a-whole-lot-of-history>.

operated within the United States by United States entities.³⁹ The FAA also issues operating certificates, pilot certificates, and other credentials to much of the industry's workforce in order to ensure an acceptable level of safety.⁴⁰ A vast compilation of laws and regulations dictates the standards necessary for safe aircraft design, operation, and maintenance.

In 2020, Congress passed, and the President signed, the *Aircraft Certification, Safety, and Accountability Act* (P.L. 116-260), which made several reforms to the certification process of large passenger aircraft in response to the 2018 and 2019 Boeing 737 MAX accidents.⁴¹ These reforms include requiring aircraft manufacturers to implement and develop an SMS, addressing how manufacturers present pilot training standards to their customers, and requiring manufacturers to better account for realistic pilot responses to non-normal conditions when designing aircraft, among other things.⁴²

The FAA also issued a final rule in 2016, which made changes to how it certifies small airplanes typically used for general aviation purposes.⁴³ This rule was developed to foster innovation and reduce costs for small plane manufacturing, allowing for updates to aircraft design that improved safety.⁴⁴ With this rule, the FAA transitioned from certain prescriptive-based standards to performance-based standards that were more flexible and encouraged innovation.⁴⁵

ISSUES WITH FOREIGN VALIDATION OF U.S. AEROSPACE PRODUCTS

In 2011, the United States and European Union entered into a bilateral aviation safety agreement (BASA).⁴⁶ This bilateral agreement facilitated cooperation on airworthiness certification of civil aviation products imported and exported between the two regions. More specifically, it was intended to (1) promote reciprocal acceptance of safety findings and approvals and (2) leverage the resources and expertise of each certification system.⁴⁷

In January 2021, the Director-General of the European Union Aviation Safety Agency (EASA), Mr. Peter Ky, appeared before the European Parliament's Committee on Transport and

³⁹ See *Licenses & Certificates*, FAA, available at https://www.faa.gov/licenses_certificates (last updated Nov. 15, 2022).

⁴⁰ See *id.*

⁴¹ *Consolidated Appropriations Act*, 2021, Pub. L. No. 116-260, 134 Stat. 2309.

⁴² *Id.*

⁴³ Revision of Airworthiness Standards for Normal, Utility, Acrobatic, and Commuter Category Airplanes, 81 Fed. Reg. 96,572 (Dec. 30, 2016) (to be codified at 14 C.F.R. 21, 23, 35, 43, 91, 121, 135), available at <https://www.federalregister.gov/d/2016-30246>.

⁴⁴ Press Release, FAA, New Certification Rules for Small Airplanes Becomes Effective (Sep. 5, 2017), available at <https://www.faa.gov/newsroom/new-certification-rule-small-airplanes-becomes-effective>.

⁴⁵ *Id.*

⁴⁶ Agreement Between the United States of America and the European Community on Cooperation in the Regulation of Civil Aviation Safety, U.S.-E.U., Dec. 6, 2013, available at https://www.faa.gov/aircraft/air_cert/international/bilateral_agreements/baa_basa_listing/media/EU-US-agreement-R0A5.pdf.

⁴⁷ "The Aviation Safety Agreement Between the US and the EC", FAA (Aug./Sept. 2011), available at https://www.faa.gov/aircraft/repair/media/EASA_EU_roadshows.pdf [hereinafter *Aviation Safety Slides*].

Tourism to discuss recertification of the Boeing 737 MAX.⁴⁸ In his presentation, Mr. Ky stated, “... we [EASA] will increase our level of involvement [and] our level of independent review of *U.S. projects* in order to build our own safety assessments.”⁴⁹ The US-EU BASA was developed and agreed to based upon the existence of certification systems that produce equivalent results (even though their processes and procedures may be different).⁵⁰ Some Congressional leaders have expressed concerns that if EASA or other countries follow through on making certification and validation process changes that conflict with BASA’s tenant of reciprocity, it would jeopardize the bilateral agreements and diminish the current trust and ability for the organizations to improve global aviation safety.⁵¹

NATIONAL TRANSPORTATION SAFETY BOARD

The National Transportation Safety Board (NTSB) is an independent Federal investigator of transportation accidents, including all aircraft incidents and accidents, and commercial space accidents.⁵² The NTSB makes safety recommendations to the Secretary of Transportation and others based on the findings of these investigations. While Federal agencies are required by law to respond to all NTSB recommendations, the NTSB does not have regulatory authority to require agencies to adopt these recommendations.⁵³ Additionally, the NTSB oversees pilot certification appeals⁵⁴ and fulfills the important role of providing assistance to victims of transportation accidents and their families.⁵⁵

The FAA and other stakeholders will often consider studies and recommendations of the NTSB to improve aviation safety. A recent example occurred when the FAA issued the proposed rule requiring commuter, charter, and air tour operators, as well as certain manufacturers to develop and maintain an SMS.⁵⁶ This proposed rule was prompted in part by the NTSB issuing recommendations for aviation stakeholders to institute an SMS.⁵⁷

The NTSB has several outstanding safety recommendations which have not been resolved, such as a recommendation to the FAA to require cockpit voice recorders (CVR) with a minimum 25-hour recording capacity to be installed on all newly manufactured aircraft.⁵⁸ The NTSB noted in a 2018 report that 34 of their investigations since 2002 would have benefitted

⁴⁸ Cathy Buyck, *EASA To Strengthen Safety Reviews of U.S.-certified Aircraft*, AINONLINE (Jan. 25, 2021), available at <https://www.ainonline.com/aviation-news/air-transport/2021-01-25/easa-strengthen-safety-reviews-us-certified-aircraft>.

⁴⁹ *Id.*

⁵⁰ *Aviation Safety Slides*, *supra* note 45.

⁵¹ Letter from Ranking Member Sam Graves, House Comm. on Transp. & Infrastructure, Ranking Member Garret Graves, House Subcommittee on Aviation to Secretary Peter Buttigieg, U.S. Dept. of Transp. (Feb. 11, 2021), available at https://transportation.house.gov/uploadedfiles/2021-02-11_-_letter_to_buttigieg_re_easa.pdf.

⁵² 49 U.S.C. § 1131.

⁵³ 49 U.S.C. § 1135.

⁵⁴ 49 U.S.C. § 1133.

⁵⁵ 49 U.S.C. § 1136.

⁵⁶ Safety Management Systems, 88 Fed. Reg. 1,932 (Jan. 11, 2023) (to be codified at 14 C.F.R., 14 C.F.R 5, 21, 91,119, 121,135), available at <https://www.federalregister.gov/d/2022-28583>.

⁵⁷ *Id.*

⁵⁸ NTSB, SAFETY RECOMMENDATION A-18-030 (2018), available at <https://www.ntsbt.gov/safety/safety-recs/reletters/A-18-030-031.pdf>.

from a 25-hour capacity CVR had it been installed.⁵⁹ This number has increased to 40 as of January 18, 2023.⁶⁰ Additionally, the NTSB has made a number of other recommendations to improve aviation safety, including the installation of cockpit image recorders in commercial aircraft⁶¹ and establishment of a structured flight data monitoring program for Part 135 charter operators.⁶²

III. WITNESSES

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FAA

The Honorable Jennifer Homendy

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Capt. Jason Ambrosi

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⁵⁹ NTSB, ASR-1804, AVIATION SAFETY RECOMMENDATION REPORT – EXTENDED DURATION OF COCKPIT VOICE RECORDERS (2018), *available at* <https://www.nts.gov/investigations/AccidentReports/Reports/ASR1804.pdf>.

⁶⁰ E-mail from NTSB Gov't and Industry Affairs staff to Subcomm. on Aviation staff, (January 18, 2023, 10:52 a.m. EST) (on file with the Committee).

⁶¹ NTSB, SAFETY RECOMMENDATION A-15-007 AND A-15-008 (2014), *available at* <https://www.nts.gov/safety/safety-recs/reclatters/A-15-001-008.pdf>.

⁶² NTSB, SAFETY RECOMMENDATION A-16-035 (2016), *available at* <https://www.nts.gov/safety/safety-recs/reclatters/A-16-034-042.pdf>.