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COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION:
IMPLEMENTATION OF AVIATION SAFETY REFORM

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Good morning Chair Cantwell, Ranking Member Wicker, and Members of the committee:

Thank you for the opportunity to be here with you today to discuss the Federal Aviation Administration's (FAA) approach to aviation safety oversight and our activities to implement changes to strengthen the aircraft certification process. Certifying aviation products is a critical aspect of the FAA's safety mission. We are committed to improving the certification process, including our oversight of functions delegated to aircraft designers and manufacturers. We have undertaken a number of initiatives to address this goal, as well as to comprehensively implement the requirements of the bipartisan Aircraft Certification, Safety, and Accountability Act ("Act").

Before we begin to discuss the specifics of certification reform implementation, on behalf of the United States Department of Transportation and everyone at the FAA, I would like to recognize, as we have before, the families of the victims of the Lion Air and Ethiopian Airlines accidents and extend our deepest sympathies and condolences to them. It has been 3 years since the Lion Air accident, and we have made significant progress on addressing the findings and recommendations that resulted from the numerous investigations and independent reviews of both accidents involving the Boeing 737 MAX. We will continue to prioritize our work to improve aviation safety to make sure this never happens again.

As mentioned, our efforts to implement certification reform are well underway. I want to thank Congress for enacting this landmark aviation safety legislation and for this committee's continued leadership on aviation safety matters. The Act has more than one hundred unique requirements that we are implementing in a holistic, systematic, transparent, and efficient manner to improve aircraft certification and safety oversight. The FAA is working diligently to implement the requirements while also ensuring that we are approaching our efforts as systemically and effectively as possible. Specific agency actions taken to implement the requirements of the Act are discussed more fully below; however, I also wish to note that, in general, our approach to aircraft certification and safety oversight has changed. The FAA's relationship with manufacturers is evolving. We are prioritizing oversight of manufacturers and working to focus that oversight on safety critical areas. We are delegating fewer responsibilities and demanding more transparency from them, and evaluating key assumptions prior to delegating functions in certain areas. While we continue to value their technical expertise, we are also committed to enforcing the highest safety standards for the manufacturers that we regulate. Our work to fully implement the Act is still in the early stages, and we are carrying it out with the urgency that it requires. The discussion below provides an overview of some of our accomplishments to date.

- *Safety Management Systems.* To ensure a holistic and proactive assessment and mitigation of hazards, and to support further improvement in safety performance, we continue to work with industry to increase transparency, strengthen risk management practices, and improve feedback channels between industry and the FAA. We believe that enhancing and promoting the use of safety management systems (SMS)—where safety issues are actively looked for and identified, and then the root cause is addressed—is integral to achieving this objective, and we have taken a number of steps toward increasing the use of SMS in the

design and manufacturing environment. As required by the Act, we have initiated a rulemaking that contemplates requiring aircraft manufacturers that hold both a type certificate and a production certificate to adopt SMS, consistent with international standards and practices.[1] As part of this rulemaking, we will also evaluate potential SMS requirements for repair stations, certificate holders that conduct common carriage operations under part 135, and certain air tour operators under part 91.[2] We also created guidance for the development of voluntary SMS programs and are working closely with industry to encourage participation in voluntary SMS programs to further enhance safety across the entire aviation system. Currently, four design and manufacturing organizations have voluntarily adopted SMS with six others in progress. Boeing also established an SMS under the FAA's Voluntary SMS program as part of the settlement agreement. The voluntary programs have enabled the FAA to gain valuable experience on oversight of SMS for design and manufacturing organizations, and the lessons learned will help inform FAA's SMS rulemaking and policy development.

- *System Safety and Human Factors.* We are working on several initiatives to ensure system safety assessments and human factors assumptions are incorporated into the FAA's aviation safety policy and oversight. We have initiated a rulemaking to standardize regulations and guidance for conducting system safety assessments on transport category airplanes.[3] In addition, the expert safety review panel that we established pursuant to the

[1] RIN 2120-AL60, Safety Management System (SMS) for Parts 21, 91, 135 and 145 issued. https://www.reginfo.gov/public/do/eAgendaViewRule?pubId=202104&RIN=2120-AL60

[2] The FAA is developing a final rule to require the use of SMS at airports certificated under Part 139. RIN 2120-AJ38, Airport Safety Management System. https://www.reginfo.gov/public/do/eAgendaViewRule?pubId=202104&RIN=2120-AJ38

[3] RIN 2120-AJ99, System Safety Assessments for transport category airplanes issued. https://www.reginfo.gov/public/do/eAgendaViewRule?pubId=202104&RIN=2120-AJ99

Act is meeting regularly to review the assumptions relied upon in aircraft design and certification of transport category aircraft—including assumptions regarding pilot response times. We are also developing new guidance for industry on the submission of safety critical information. There are several interrelated provisions regarding human factors and human systems integration. To address these, we have taken a number of steps to strengthen the foundation of aviation human factors safety research and to bolster the technical expertise within the Aviation Safety (AVS) organization. This includes developing a human factors education and training program, doubling the number of human factors staff within AVS, and realigning the hiring of technical advisors with the necessary technical expertise involved in critical safety decisions.

- *Global Collaboration.* To further international harmonization and collaboration with respect to aircraft type certification and continued operational safety, the FAA established the Changed Product Rule International Authority Working Group and held the first meeting in July 2021. This working group will develop recommendations for international policy and guidance to ensure proposed changes to an aircraft are evaluated from an integrated whole aircraft system perspective. The FAA is working closely with the International Civil Aviation Organization and other international stakeholders to influence and adjust the maintenance and pilot training requirements for U.S. products operating under the oversight of another civil aviation authority. In addition, FAA representatives have presented at and attended several webinars, work group meetings, and seminars, including a presentation at the 2021 Zhuhai International Flight Training and Safety seminar on topics of competency based pilot training and automation dependency. The FAA plans to continue this global engagement into the future, including seeking new

opportunities to collaborate with civil aviation authorities and other international stakeholders to foster improvements in international safety standards and practices for aircraft design and certification, pilot training, and operational safety management. Additionally, to fulfill the requirement to ensure that pilot operational evaluations for aircraft type certifications utilize pilots from air carriers that are expected to operate such aircraft, the FAA has already begun to incorporate air carrier pilots into such evaluations.

- *Data.* We are actively expanding our oversight capabilities by advancing data collection and analytics tools to share safety data within the FAA and between industry stakeholders and international partners. These efforts include technological enhancements to the Aviation Safety Information Analysis and Sharing system to integrate new data sources and methods for safety analysis, which will improve data quality and accessibility to support risk-based decision-making. In addition, the FAA's new contract with the Transportation Research Board, established pursuant to the Act in June 2021, will aid the agency's effort to conduct annual analysis and reporting on current and emerging safety trends in aviation. As the aviation landscape continues to evolve, it will be increasingly necessary to bolster the FAA's use of safety data and collaboration with industry to identify potential hazards and safety problems and to solve these problems before they give rise to an accident or incident.
- *Integration of Certification and Oversight.* The Act requires the FAA to convene an interdisciplinary integrated project team upon the agency's receipt of every application for a new type certificate for a transport category airplane. The FAA previously commissioned the Integrated Program Management team comprised of subject matter experts from Flight Standards and the Aircraft Certification Service to assess current practices and policies and

make recommendations for improving FAA oversight through the integration of design and operations. The best practices identified from this process are being applied to ongoing certification projects, and we intend to enhance the current procedures to incorporate additional requirements contained in the Act. The FAA is also revising our current Technical Advisory Board (TAB) process to use the TAB in all new and amended type certification projects. We anticipate implementing this policy next spring. The Act also directs FAA to establish an executive council to oversee the FAA Compliance Program. This program provides a framework for how the agency returns a regulated entity to compliance through comprehensive safety data sharing between the FAA and regulated entities. Pursuant to the Act's requirements, we established the FAA Compliance Program Executive Council to monitor the operation and effectiveness of the Compliance Program, and held the first meeting in August 2021. We also updated the Compliance Program order to reflect the implementation of the Executive Council and the Compliance Program Steering Committee.[4]

- *Culture of Safety and Excellence.* The FAA is committed to fostering a just safety culture, while providing transparency to improve safety, operational excellence, and efficiency. These efforts include promoting voluntary safety reporting, increasing workforce competencies, and attracting talented staff. In April 2021, we implemented the Voluntary Safety Reporting Program (VSRP) to provide a mechanism for employees to voluntarily report potential hazards and safety concerns without fear of reprisal or other repercussions.[5] Preliminary data on VSRP usage indicates that employees are comfortable using the system

[4] Federal Aviation Administration, *Federal Aviation Administration Compliance Program,* Order 8000.373B, April 22, 2021, at http://www.faa.gov/documentLibrary/media/Order/FAA_Order_8000.373B.pdf.
[5] Federal Aviation Administration, *Aviation Safety Voluntary Safety Reporting Program,* Order 800.375, February 02, 2021, at http://www.faa.gov/documentLibrary/media/Order/VS_8000.375.pdf.

and they are regularly using it to raise safety concerns. An added bonus of VSRP is that it promotes collaboration between employees and management for proactively addressing safety concerns and developing corrective action recommendations. To assess the effectiveness of these efforts and to meet the requirements of the Act, we will conduct annual internal safety culture assessments that include surveys of AVS employees in order to evaluate the safety culture and the implementation of VSRP programs.

- *Accountability.* A critical part of fostering a just safety culture is ensuring that we hold our people to the highest safety standards. In response to requirements in the Act, we have taken a critical look at our own internal oversight processes and taken steps to enhance accountability. This includes re-designating the Office of Investigations to the new Office of Investigations and Professional Responsibility and establishing investigative processes that are based on best practices identified from similar offices at other federal agencies and from the FAA's experience, expertise, and other sources. Although our work is not yet done, we believe that incorporating these best practices will improve the effectiveness, efficiency, and transparency of the FAA's investigative process.
- *Delegation.* The Act requires the FAA to institute extensive and meaningful changes to the Organization Designation Authorization (ODA) program and our oversight of that program. To address these legislative requirements, we expect to implement significant changes to our policies and procedures for delegating certification authority to private entities. These changes include policy requiring FAA approval of individual ODA unit members for certain ODA types, and policy aimed at preventing interference with ODA unit members in performance of their duties. We are also standing up an expert panel to conduct a review of ODAs for transport category airplanes and make recommendations to

the FAA based on that review. Additionally, as required under the FAA Reauthorization Act of 2018, we previously established the ODA Office to provide oversight and to ensure consistency of the FAA's audit functions under the ODA program. In April 2021, the FAA realigned the ODA Office to report directly to the Associate Administrator for Aviation Safety. This reporting structure reflects the FAA's priority to oversee, standardize, and ensure consistency in the ODA system, as well as to facilitate many of the ODA reform requirements contained in the Act. To that end, the ODA Office anticipates adding more employees in Fiscal Year 2022, and hiring has already begun. The additional staff will allow the office to perform more outreach, identify best practices, and implement measures to maintain consistent oversight.

- *Certification and Continued Operational Safety Processes.* Ensuring the safety of aviation products through certification is an important function of the FAA, and we are continuously taking steps to enhance the type certification process. This includes revising guidance and criteria used for determining significant changes to best ensure that proposed changes to an aircraft are evaluated from a whole aircraft-level perspective, including human interface elements. We have also commissioned external reviews to evaluate our Transport Airplane Risk Assessment Model and type certification process. To address the Act's requirements to establish an appeal and issue resolution processes for certification decisions, we are developing an implementing order.
- *Innovation.* Aviation is incredibly dynamic, and it is imperative for the FAA to take steps to accelerate and expand the deployment of new technologies in order to reduce barriers and actively promote innovation that enhances the safety and efficiency of the National Airspace System. We recently established and staffed the Center for Emerging Concepts

and Innovation to support certification of new aircraft and technologies by providing pre-application engagement with companies to identify a preliminary path to compliance. We are also taking steps to foster enhanced coordination across the FAA on emerging products and concepts.

Chair Cantwell, Ranking Member Wicker, I want to assure you, and each member of the committee, that the FAA is fully committed to thorough and complete implementation of the Aircraft Certification, Safety, and Accountability Act. As we continue this process, we remain committed to our transparent and accountable approach, which includes regular briefings on our progress with staff of the committees of jurisdiction, labor partners, industry stakeholders, and more. We will continue to assess our entire certification and oversight framework in light of past experience, industry growth, technological advancements, and innovation as we carry out our responsibilities for public safety. We approach all of this work with humility and do not take safety for granted. We are confident that we are making substantial and meaningful progress, and will continue to keep Congress apprised throughout this work.