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BEFORE THE
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE,
UNITED STATES HOUSE OF REPRESENTATIVES
THE BOEING 737 MAX:
EXAMINING THE FEDERAL AVIATION ADMINISTRATION'S
OVERSIGHT OF THE AIRCRAFT'S CERTIFICATION
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Chairman DeFazio, Ranking Member Graves, and Members of the Committee:

Thank you for inviting me here today to speak with you about the Federal Aviation Administration's (FAA) approach to safety oversight and to provide you with an update concerning the Boeing 737 MAX. On behalf of the United States Department of Transportation and everyone at the FAA, I would like to, once again, extend our deepest sympathy and condolences to the families of the victims of the Ethiopian Airlines and Lion Air accidents. Deputy Administrator Dan Elwell and I have met with the family members and friends of those onboard. In these meetings, we have seen their pain, their loss, and it reaffirms the seriousness with which we must approach safety every single day. That is why we are working tirelessly to ensure that the lessons learned from these terrible losses will result in a higher margin of safety for the aviation industry globally.

Accompanying me here today is Earl Lawrence. Mr. Lawrence is the Executive Director of the FAA's Aircraft Certification Service, where he is responsible for type certification, production approval, airworthiness certification, and continued airworthiness of the U.S. civil aircraft fleet including commercial and general aviation activities.

Status of the 737 MAX Return-to-Service

Safety is the core of the FAA's mission and is our first priority. We are working diligently to ensure that the type of accidents that occurred in Indonesia and Ethiopia—resulting

in the tragic loss of 346 lives—do not occur again. The FAA is following a thorough process for returning the 737 MAX to service. This process is not guided by a calendar or schedule. Safety is the driving consideration. I unequivocally support the dedicated professionals of the FAA in continuing to adhere to a data-driven, methodical analysis, review, and validation of the modified flight control systems and pilot training required to safely return the 737 MAX to commercial service. I have directed FAA employees to take whatever time is needed to do that work.

With respect to our international partners, the FAA clearly understands its responsibilities as the State of Design for the 737 MAX. In September, we met with more than 50 invited foreign civil aviation officials, all of whom have provided input to the FAA and will play a role in clearing the 737 MAX for flight in their respective nations. We are also conducting and planning a number of outreach activities, including providing assistance to support foreign authorities on return-to-service issues; maintaining transparency through communication and information sharing; and scheduling meetings for technical discussions.

As I have stated before, the FAA's return-to-service decision on the 737 MAX will rest solely on the FAA's analysis of the data to determine whether Boeing's proposed software updates and pilot training address the known issues for grounding the aircraft. The FAA fully controls the approvals process for the flight control systems and is not delegating anything to Boeing. The FAA will retain authority to issue airworthiness certificates and export certificates of airworthiness for all new 737 MAX airplanes manufactured since the grounding. When the 737 MAX is returned to service, it will be because the safety issues have been addressed and pilots have received all of the training they need to safely operate the aircraft.

Actions that must still take place before the aircraft will return to service include a certification flight test and completion of work by the Joint Operations Evaluation Board

(JOEB), which is comprised of the FAA Flight Standardization Board (FSB) and our international partners from Canada, Europe, and Brazil. The JOEB will evaluate pilot training needs. The FSB will issue a report addressing the findings of the JOEB and the report will be made available for public review and comment. Additionally, the FAA will review all final design documentation, which also will be reviewed by the multi-agency Technical Advisory Board (TAB). The FAA will issue a Continued Airworthiness Notification to the International Community providing notice of pending significant safety actions and will publish an Airworthiness Directive advising operators of required corrective actions. Finally, I am not going to sign off on this aircraft until all FAA technical reviews are complete, I fly it myself using my experience as an Air Force and commercial pilot, and I am satisfied that I would put my own family on it without a second thought.

Oversight of Aircraft Certification

Safety is a journey, not a destination—a journey we undertake each and every day with humility. Today's unprecedented U.S. safety record was built on the willingness of aviation professionals to embrace hard lessons and to proactively seek continuous improvement. The FAA both welcomes and invites scrutiny of our processes and procedures. In addition to this Committee's investigation, several independent reviews have been initiated to look at different aspects of the 737 MAX certification and the FAA's certification and delegation processes generally.

The first review to be completed was one that the FAA commissioned—asking nine other civil aviation authorities to join the FAA in a Joint Authorities Technical Review (JATR) to conduct a comprehensive assessment of the certification of the automated flight control system on the 737 MAX. The JATR was chaired by former National Transportation Safety Board

(NTSB) Chairman Christopher Hart and was comprised of a team of experts from the FAA, National Aeronautics and Space Administration (NASA), and the aviation authorities of Australia, Brazil, Canada, China, the European Union, Indonesia, Japan, Singapore, and the United Arab Emirates. Never before have 10 authorities come together to conduct this type of review. I thank the JATR members for their unvarnished and independent review and we welcome their recommendations.

The FAA also initiated a TAB made up of FAA Chief Scientists and experts from the U.S. Air Force, NASA, and Volpe National Transportation Systems Center. The TAB's task is to conduct an independent review of the proposed integrated system, training, and continued operational safety determination for the 737 MAX. The TAB recently briefed me, and previously briefed this Committee, on their progress and the status of Boeing's and the FAA's responses to the return-to-service action items.

Last month, the FAA received recommendations from the NTSB and the Indonesian National Transportation Safety Committee's accident report on Lion Air Flight 610. We are carefully evaluating the recommendations in both of these reports as we continue our review of the proposed changes to the 737 MAX. Work also continues on the Department of Transportation's Inspector General audit of the 737 MAX certification, as well as this Committee's investigation and other congressional reviews. Finally, we are also awaiting a report from the Secretary of Transportation's Special Committee on aircraft certification. This blue-ribbon panel was established earlier this year to advise and provide recommendations to the Department on policy-level topics related to certification across the manufacturer spectrum.

We believe that transparency, open and honest communication, and our willingness to improve our systems and processes are the keys to restoring public trust in the FAA and in the

safety of the 737 MAX when it is returned to service. The FAA is fully committed to addressing the recommendations from all of the various groups reviewing our certification processes. We will implement any changes that would improve our certification activities and increase safety. It would be premature, however, to discuss any changes concerning the FAA's certification processes or FAA's personnel at any level before this Committee's investigation and other ongoing reviews have concluded, and we have a chance to carefully analyze their results and recommendations.

Moving Forward

Beyond the 737 MAX, the FAA is committed to addressing issues regarding aircraft certification processes not only in the United States, but around the world. These issues include:

- moving toward a more holistic versus transactional, item-by-item approach to aircraft certification – taking into account the interactions between all aircraft systems and the crew;
- integrating human factors considerations more effectively throughout the design process, as aircraft become more automated and systems more complex; and
- ensuring coordinated and flexible information flow during the oversight process.

Yet, if we are to continue to raise the bar for safety across the globe, it will be important for the FAA and our international partners to foster improvements in standards and approaches not just for how aircraft are designed and produced, but also how they are maintained and operated. We at the FAA are prepared to take the lead in this new phase of system safety. I see our strategy coalescing around four themes: Big Data; Just Culture; Global Leadership; and People.

Big Data

The FAA must continue leaning into our role as a data-driven, risk-based decision-making oversight organization that prioritizes safety above all else. We do that by breaking down silos between organizations and implementing Safety Management Systems supported by compliance programs and informed by data. We look at the aviation ecosystem as a whole, including how all the parts interact: aircraft, pilots, engineers, flight attendants, technicians, mechanics, dispatchers, air traffic controllers—everyone and everything in the operating environment. The FAA is examining the data we have, identifying data we may need, and looking for new methods for analyzing and integrating data to increase safety.

Just Culture

In addition to the technical work required for truly integrated data, a key enabler of a data-driven safety organization is a healthy and robust reporting culture. A good safety culture produces the data you need to figure out what's really happening. If we know about safety concerns and we know where threats are coming from and how errors are occurring, we can mitigate the risks and fix the processes that led to those errors. A good safety culture demands that we infuse that safety data into all of our processes from top to bottom—in a continuous loop.

To be successful, a safety organization relies on a Just Culture that places great value on front-line employees and those involved in the operation raising and reporting safety concerns in a timely, systematic way, without fearing retaliation. A Just Culture starts at the top. It's something leadership has to nurture and support everywhere in the organization. Employees have to see the results, see what the data is showing, and see how the organization is using analysis tools to identify concerns and errors and put actions in place to mitigate them.

Global Leadership

Today, the U.S. aviation system is the safest, most dynamic and innovative in the world, and we have the numbers to prove it. This is largely due to these collaborative approaches to safety. An example of the kind of collaboration and safety innovation we can use to lead the global aviation safety system to even higher levels of performance is Aviation Safety Information Analysis and Sharing (ASIAS). ASIAS is one of the crown jewels of the aviation safety system in the United States. It is unique in the world. Its purpose is to proactively discover and mitigate emerging safety issues before they result in an incident or accident.

ASIAS de-identifies airline and company proprietary data submitted by a growing number of stakeholders in accordance with information sharing agreements and governance protocols. This ensures a level of protection for participants and protects against disclosure of a specific flight crew or entity, which has helped to foster a culture of trust within the ASIAS program and across stakeholder organizations. As trust has developed, data access has increased and enabled advancements in data analysis methodologies through more automated capabilities and the fusing together of data streams that provide a 360-degree perspective on safety issues. This "fusion" bypasses the limits associated with analyzing data in separate silos of information, provides insight from multiple integrated data sources, and enables analysts to better understand the full context of safety events. ASIAS works in partnership with the Commercial Aviation Safety Team (CAST) that proactively mitigates risks thorough the voluntary adoption of Safety Enhancements.

Over the years, the FAA has exercised a leadership role in the promotion and development of global aviation safety. We have helped raise the bar on safety standards and practices around the world working with ICAO and other civil aviation authorities. We have an

opportunity to do even more. We are committed to expanding our efforts with other authorities around the world and to fostering safety standards and policies at ICAO to help meet the public's expectations of the highest possible levels of safety globally, even in areas the FAA does not regulate directly. Without safety as a foundation, we cannot have a vibrant aviation industry in any country, much less between countries. Our international air transportation network is a tightly woven fabric that is dependent on all of us making safety our core value.

People

We live in an incredibly dynamic time in aviation, with new emerging technologies and capabilities transforming the NAS. But at its core, a huge technical, operational, and regulatory agency like the FAA is made of people—people who are driven to serve, people with families, hopes and dreams, and most importantly, people who are dedicated safety professionals. I have the utmost respect for the jobs that they do every day, making sure our skies are safe and that the operation of the system is efficient—and serves the public—as well as it possibly can. It's now time to show the next generation of aviation leaders what incredible opportunities lie ahead for them in our field, both personally and professionally. It is the people who will innovate and collaborate to take us to the next level of safety, operational excellence, and opportunity.

Conclusion

Aviation's hard lessons and the hard work in response to those lessons—from both government and industry—have paved the way to creating a global aviation system with an enviable safety record. But as I mentioned earlier, safety is a journey, not a destination. We have achieved unprecedented levels of safety in the United States. Yet what we have done in the past and what we are doing now will not be good enough in the future in an increasingly

interconnected world. We must build on the lessons learned, and we must never allow ourselves to become complacent.

Those lessons teach us that in order to prevent the next accident from happening, we have to look at the overall aviation system and how all the pieces interact. Time and again, it has been shown that accidents happened due to a complex interaction of multiple issues. Focus on a single factor will lead us to miss opportunities to improve safety that come from regulators and industry raising the bar not just in certification, but in maintenance and training procedures. That will require truly integrated data and collaboration, enterprise-wide. When our data—and our organizations—are kept in silos, we may miss information that could provide an opportunity to make important safety decisions that will improve processes or even prevent accidents entirely. We have to be constantly learning from each other—regulator and those we regulate—to help each other improve.

The United States has been, and will continue to be, the global leader in aviation safety. We are confident that continuing to approach this task with a spirit of humility, openness, and transparency will bolster aviation safety worldwide.

This concludes my statement. I will be glad to answer your questions.