

**STATEMENT OF
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**BEFORE THE COMMITTEE ON TRANSPORTATION & INFRASTRUCTURE,
SUBCOMMITTEE ON AVIATION**

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Good morning, Chairman Larsen, Ranking Member Graves, and Members of the Subcommittee. Thank you for the opportunity to discuss the Status of the Boeing 737 MAX: Stakeholder Perspectives.

I would also like to offer my most heartfelt condolences to the families, friends and loved ones of the passengers and crew members aboard both Lion Air 610 and Ethiopian Airlines 302. My thoughts and prayers are with them.

Background

I have had a pilot's license from the time I soloed in 1962 to date. I have been an aviation safety advocate for over 40 years, so I do bring some background and understanding to accident investigations and changes that have subsequently been made to improve aviation safety and efficiency over the last forty plus years.

As the President of ALPA I championed "One Level of Safety" which essentially melded the regulations of Part 121 operations into Part 135 providing a vast improvement of Regional Carriers safety standards. While serving as the FAA's Administrator the program for Aviation Safety Information Analysis and Sharing ("ASIAS") was introduced and provides data today that dramatically has improved safety by having stakeholders and operators reporting and identifying problems and operational issues before they become accidents. We also began to purposely focus on collaboration with all facets of aviation operations to be more forthcoming with mistakes and errors and at the same time moving the FAA to be less punitive to inspire more voluntary disclosures.

Following the tragic accident in Buffalo I called on the industry and the organizations representing Professional Airline pilots of the country together for a "Call to Action" focused on professionalism. Safety starts with professionalism and we revisited our past actions and then entered into a partnership with the industry to actively address concerns raised by the Colgan Air Flight 3407 tragedy. We identified immediate steps to strengthen and improve pilot hiring, training, and testing practices at airlines that provide regional service, as well as at our major air carriers. Participants agreed on best practices for pilot record checks, development of pilot mentoring programs and reassessing rules for pilot flight and duty time to

incorporate scientific research about fatigue. Professionalism is not something we can regulate, but I am proud to note that Labor organizations answered our Call to Action and supported either the establishment or expansion of professional standards and ethics committees, codes of ethics, and safety risk management meetings between FAA and major and regional air carriers. The FAA has worked in full cooperation with the industry to raise professional standards and improve cockpit discipline. I believe the "Call to Action" has proven the critical importance of professionalism in aviation safety.

Safety

The FAA's mission is to provide the safest, most efficient aerospace system in the world. And in the aviation system, data is our friend. 90 million flights and 7 billion passengers carried over the last decade in the U.S. is the most incredible safety record the world has ever seen and is not symptomatic of a flawed safety structure. But, like aviation itself, we must strive to improve and continue to evolve in our ever-changing environment of advancing technology and oversight. And the evolution and adoption of safety management systems has proven success. In 1970 the U.S. was suffering major airline hull losses of one every 6 weeks! As noted earlier, we have not lost a domestic aircraft in over a decade which reflects the dramatic effect of continuous safety improvements.

Quoting from my own testimony made almost a decade ago, "Safety remains the vital core of the FAA mission. The flying public must have confidence that the airplanes they board are properly designed and maintained. They must know that their pilots are qualified, trained for their mission, and fit for duty. Nothing less is worthy of the FAA name, or our responsibility for preserving the lives of the flying American public." I concluded with the observation that "The FAA has demonstrated a consistent track record of protecting the safety of the flying American public. Our successes in aviation safety continue to set a global standard of American leadership that is not only acknowledged, but also emulated throughout the world." I believe those statements are equally valid today.

Certification

Our nations system of Aircraft certification has been evolving for over 60 years and must continue to evolve and improve. But as we move forward with increased reliance on automation, the linkage or interface between man and the machine must evolve as well. It is imperative that pilots have a full and complete understating of the automation of the equipment they operate. The FAA works with the industry to improve Flight deck layout and alert/warning display strategies that influence a crew's ability to interface with their airplane. And today's modern Aircraft continue to introduce systems that now incorporate even better systems to protect the "operational envelope" of the aircraft but of equal importance is ensuring that pilots have a full training and operational knowledge and understanding of those operational boundaries and the limitations of those systems. We also must continue to improve the operational knowledge and training of our flight crews. And we should be fully aware – to quote Chris Hart, former Chairman

of the NTSB “Weaknesses in pilot skills are masked by automation when it works but amplified when it doesn’t”.

We have made remarkable technological improvements and the current safety record is proof positive of their importance. And key to continuing our introduction of innovative improvements to tomorrow’s aircraft operational and safety systems is to ensure that safety regulations not stifle innovation, but to ensure that changes and innovation have safety and risk assessment as part of the design incorporated and built into them.

Automation & Training

Automation and therefore training must keep improving to maintain the man-machine interface. Training should also include maintaining situational and operational awareness of what equipment including artificial intelligence and automation is controlling. Pilots need to understand the operational realm in which automation takes control of an aircraft and be appropriately aware of the situation calling for the action as well as the full range of possibility of that action.

Pilots in today’s system need to continue improved training to operate in today’s operational environment. We have the technology to expand training with the use of visual reality and high-fidelity simulation so that no pilot should ever be surprised by event that takes place in an aircraft in which they are certified. That includes exposure to all phases of the operational envelope and environment as well as the built-in safety protections that are designed to protect the operating envelope from excursions.

Closing

A retrospective look into the introduction into service shows that assumptions were made, and design changes incorporated that should have been more rigorously tested and flight crews better educated and trained in reaction to a new safety protection system that Boeing had introduced.

History shows us that this is not a new problem but in fact has been part of Aviation history unfortunately. Going back to aircraft such as early jets and understanding metal fatigue that occurred in the de Havilland Comet. Later, Douglas DC 10 and Lockheed Electra engine mounts required redesign and maintenance procedures. Douglas DC-8 Pitch Trim compensators, all of which had to be re-designed after introduction to service. All of those aircraft finished their aviation lives successfully after required modifications.

And I am quite comfortable that Boeing and the FAA together have rigorously reevaluated the redesign along with revised training requirements that will ensure the re-introduction to service by the Boeing 737 Max will be safe and successful.

Thank you for the opportunity to testify. I look forward to your questions.